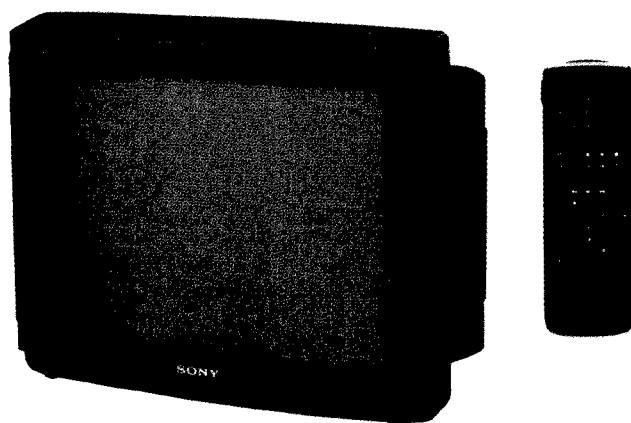


# KV-A2121D/A2521D/A2921D

## RM-816

## SERVICE MANUAL



*AEP Model*  
 KV-A 2121 D  
 Chassis No. SCC-F 07 A-A  
 KV-A2521 D  
 Chassis No. SCC-F 07 C-A  
 KV-A 2921 D  
 Chassis No. SCC-F 07 B-A

## AE-1C CHASSIS

### MODELS OF THE SAME SERIES

KV-A2121D/A2521D/A2921D	
KV-A2111D/A2511D	
KV-C2551D/C2951D	

### SPECIFICATIONS

#### 【KV-A2121 D/A2521 D/A2921 D】

Television system	B/G/H	Outputs	21-pin connector: CENELEC standard
Color system	PAL, SECAM, NTSC3.58, NTSC4.43		Headphones jack: stereo minijack
Stereo system	GERMAN stereo		External speaker terminals: 2-pin DIN
Channel coverage	B/G/H		Audio output jacks: phono jack
	VHF: E2-E12 UHF: E21-E69		(output dependent upon TV settings)
	CABLE TV (1) : S1-S41	Sound output	30 W + 30 W
	CABLE TV (2) : S01-S05, M1-M10, U1-U10	Power consumption	92 Wh (KV-A2121 D)
Picture tube	Hi-Black Trinitron tube		106 Wh (KV-A2521 D)
	Approx. 54.5 cm (21 inches)		114 Wh (KV-A2921 D)
	(Approx. 51 cm picture measured diagonally)	Dimensions incl. speakers	Approx. 615×439×448 mm (w/h/d)
	100° -degree deflection		(KV-A2121 D)
	Approx. 63.5 cm (25 inches)		Approx. 677×501×481 mm (w/h/d)
	(Approx. 59 cm picture measured diagonally)		(KV-A2521 D)
	110° -degree deflection		Approx. 761×568×512 mm (w/h/d)
	Approx. 72.4 cm (29 inches)		(KV-A2921 D)
	(Approx. 68 cm picture measured diagonally)	Weight incl. speakers	Approx. 28kg (KV-A2121 D)
	110° -degree deflection		Approx. 40kg (KV-A2521 D)
Inputs	⊖ 1 21-pin connector:		Approx. 55kg (KV-A2921 D)
	CENELEC standard including RGB input.		
	⊕ 2 21-pin connector:		
	including S video input		
	Front : ⊕ 3 Audio and video input jacks:		
	phono jack.		
	Including S Video input		
	Y: 1Vp-p±3dB 75ohm		
	C: 0.3Vp-p±3dB 75ohm		

-Continued on next page-






TRINITRON® COLOR TV  
**SONY®**

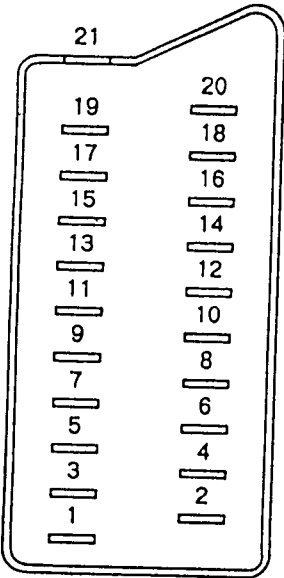
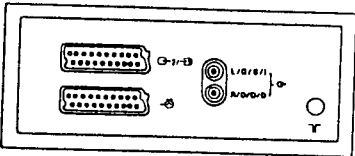
















































KV-A2121D/A2521D/A2921D  
RM-816

【RM-816】  
Remote control system   infrared control  
Power requirements       3 V dc  
                                  2 batteries IEC designation  
                                  R 6 (size AA)  
Dimensions                Approx.75×221×23 mm (w/h/d)  
Weight                     Approx.230 g (including Batteries)

Design and specifications are subject to change without notice.


21 pin connector (  ,  +2/  )



Pin No.	1	2	Signal	Signal level
1			Audio output B (right)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
2			Audio Input B (right)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
3			Audio output A (left)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
4			Ground (audio)	
5			Ground (blue)	
6			Audio Input A (left)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
7			Blue Input	0.7V ± 3dB, 75ohms, positive
8			Function select (AV control)	High state (9.5 – 12V): Part mode Low state (0 – 2V): TV mode Input impedance: More than 10kohms Input capacitance: Less than 2 nF
9			Ground (green)	
10			Open	
11			Green	Green signal: 0.7V ± 3dB, 75ohms, positive
12			Open	
13			Ground (red)	
14			Ground (blanking)	
15			Red input	0.7V ± 3dB, 75ohms, positive
			(S signal) chroma input	0.3V ± 3dB, 75ohms, positive
16			Blanking Input (Ys signal)	High state (1 – 3V) Low state (0 – 0.4V) Input impedance: 75ohms
17			Ground (video output)	
18			Ground (video input)	
19			Video output	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
20			Video Input	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
			Video Input/Y (S signal)	1V ± 3dB, 75ohms, positive Sync: 0.3V (– 3, +10dB)
21			Common ground (plug, shield)	

 connected     unconnected (open)

\* at 20Hz – 20kHz

4 Pin Connector (  )

Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75ohm, positive Sync 0.3V <sub>+10</sub> dB
4	C (S signal) input	0.3V ± 3dB 75ohm, positive



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### (CAUTION)

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

### WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.  
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

### SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK  $\Delta$  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.



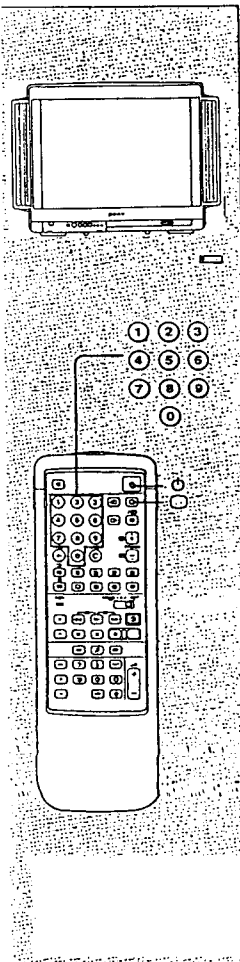
## SECTION 1 GENERAL

### 1-1. TV CHANNEL PRESETTING

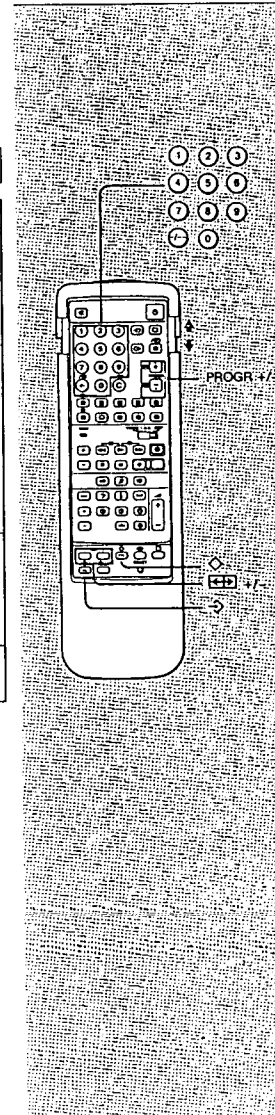
After installing the TV set, TV channels must be preset.

TV broadcasting stations broadcast their programmes on certain fixed frequencies (channels). In order to receive these programmes it is necessary to search for the relevant broadcasting station and to set record it as a channel. The "programme number" is the number that the user decides to associate with a certain channel.

For channel settings there are 60 positions available in the memory. In this way all stations broadcasting within the user's country can be received and recorded as a channel.

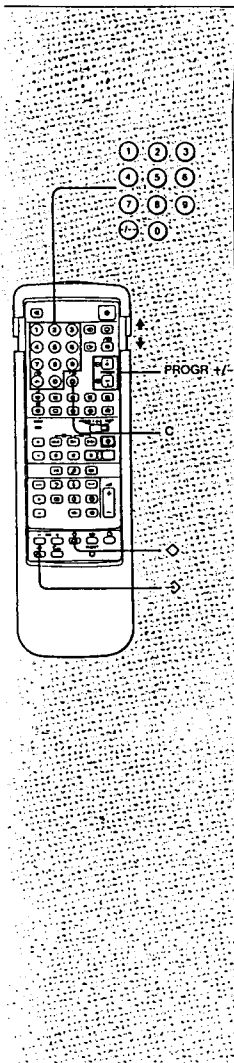


Turning the TV unit ON and OFF	
Operation	Result
<b>1</b> Press  on the TV set.	The TV set will come on. Note: If no picture appears on the screen, the TV set is in the stand-by mode. In this case follow instructions given in step 2.
<b>2</b> Press  or one of the selection numbers of the remote control unit.	A programme number appears on the screen.
Temporarily turning off the TV set: Press  on the remote control unit.	The TV set will enter the stand-by mode. It can be turned on again by pressing the  button, or the selection button of the remote control unit.
Turning off the TV set definitively: Press  on the TV set.	The TV set will be turned off.



TV channels automatic presetting	
Operation	Result
<b>1</b> Press  to begin the preselection.	The programme number flashes.
<b>2</b> Press PROGR +/- buttons of the remote control unit to select the channel number of the broadcasting station you want to memorize.  NOTE: To select a 2-figure number press the +/- button. E.g., if you wish to select number 23, press +/- first, and then 2 and 3.	The programme number on the screen changes. NOTE: In case of a mistake, the "X" letter appears. Repeat once more the operation of step 2.
<b>3</b> To search for broadcasting stations press  + and - buttons. 	When a broadcasting station is tuned correctly, the search will stop. If you want to skip it, press  + or - again.
<b>4</b> Press  to memorize the channel to that the broadcasting station is tuned. 	All data visualized under the channel number disappears from the screen.
<b>5</b> To memorize other broadcasting stations repeat steps from 1 to 4.	



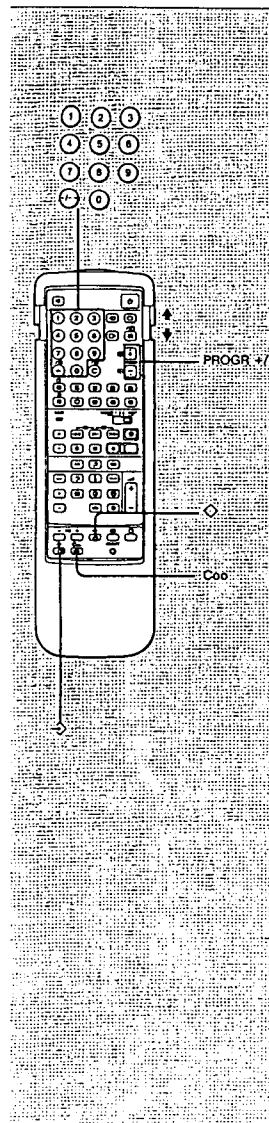


### Direct TV channel setting

Direct presetting of TV channels is faster than automatic presetting. With this function any broadcasting station can be searched for and set as the desired channel.

Operation	Result
<b>1</b> Press → to begin the presetting. 	The programme number begins to flash on the screen.
<b>2</b> Press the PROGR +/- buttons of the remote control unit to select the channel number under which you want to set the broadcasting station.  Note: To select a 2-figure number press +/- button. E.g., if you wish to select number 23, press +/- first, and then 2 and 3.	The programme number on the screen changes. Note In case of mistake, the "X" letter appears on the screen. Repeat once more the operation of step 2.
<b>3</b> Press C. If you wish to select a cable station press C twice. 	Indication "C-" ("S-" for cable stations) flashes on the screen
<b>4</b> By using the number buttons of the remote control unit select the channel number, always with two figures (for "4" press "04").  Note: Press the second figures within 5 seconds from the first. After 5 seconds the operation is canceled.	The channel number changes on the screen.
<b>5</b> Press ◇ to memorize the channel to which the station is tuned. 	All indications, except the programme number, disappear from the screen.

To memorize other broadcasting stations repeat the above procedure.



### Exclusion of programmes

Once all desired stations have been memorized, unoccupied channel numbers, with stations of inferior quality signals can be excluded. The undesired channels can be excluded by using the PROGR + and - buttons.

Operation	Result
<b>1</b> Press → to begin presetting. 	The programme number begins to flash on the screen.
<b>2</b> By acting on the PROGR + and - buttons, or on the number keys of the remote control unit, select the programme number you wish to exclude. 	The programme number changes.
<b>3</b> Press Coo. 	Under the programme number, the preceding channel number appears.
<b>4</b> Press ◇. 	All indications under the programme number disappear from the screen. The excluded programme number will be memorized.

#### NoteNote

Undesired channels can be excluded only by using PROGR + and - keys. Excluded programme numbers appear on the screen if you press the number keys of the remote control unit.

### Use of additional tuning functions

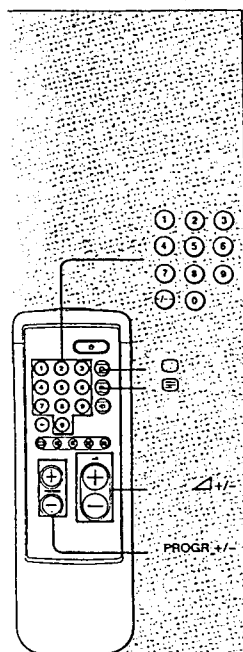
#### Temporary channel tuning

It is possible to temporarily memorize a channel, even if it has not been preset.

Operation	Result
<b>1</b> Press C. Press C twice for a cable station.	"C" ("S" for cable stations) indication appears on the screen.
<b>2</b> Using the number keys of the remote control unit select the channel number, always with two figures (e.g., "04" for channel "4").	The channel will be received, but it will not be set as a programme number.



## 1-2. BASIC FUNCTIONS



This section of the manual explains the use of the two fundamental functions of the TV set, selection of TV programmes and volume control.

Use the "simple" side of the remote control unit.

### Programme selection

Before selecting programmes make sure that TV channels have been memorized.

Operation	Result
1 Turn the TV set on.	
2 Press PROG + / - buttons or the number keys of the remote control unit. To select a 2-figure number press - / - button. E.g., if you wish to select number 23, press - / - first, and then 2 and 3.	The selected programme number appears on the screen.

### Volume control

Operation	Result
Press $\Delta$ + or -.	The volume indication appears on the screen.

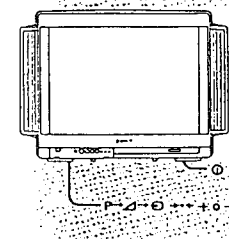
### Use of additional functions

#### Use of other functions with the TV set buttons

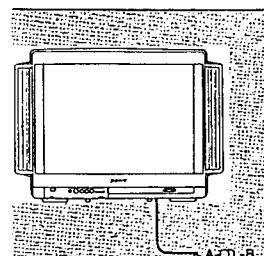
It is also possible to select programmes and to adjust the volume by using P  $\rightarrow$   $\Delta$   $\rightarrow$   $\leftarrow$  and  $\rightarrow$   $\leftarrow$  + or - buttons, located on the front panel of the TV set. In this case, press first P  $\rightarrow$   $\Delta$   $\rightarrow$   $\leftarrow$  until the indication P (channel) or  $\Delta$  (volume) appears on the screen, and then press  $\rightarrow$   $\leftarrow$  + or - buttons.

#### Use of teletext service

Press  $\odot$ . To revert to the TV mode, press  $\square$ . For further information on the teletext service,



## 1-3. SPECIAL FUNCTIONS



This section explains the use of functions for adjusting pictures and sound; for inserting on the screen the name of a channel; and for fine tuning of a channel.

Use the "complete" side of the remote control unit.

### Use of special functions

The following functions can be used.

Function	Operation	Reset
Indication display	Press $\square$	Press $\square$ again.
Sound muting	Press $\times$	Press $\times$ again.
Language selection for bilingual programmes.	Press A/B. The selected language is displayed by the relevant indication on the screen.	Press A/B.
Sound adjustment for music programmes.	Press $\text{M}$	Press $\text{M}$ again.
Use of special sound effects.	Press $\odot$	Press $\odot$ again.
Time display (only during teletext broadcasting).	Press $\odot$	Press again.

### Picture and sound adjustment

Although picture and sound adjustment has already been performed in the factory, it is still possible to make them more suitable to one's own taste. The following table shows all available functions and their effects.

#### Operation

Function	Controls to be used	Result
Button selection	$\odot$ $\square$ $\Delta$ $\leftarrow$ $\rightarrow$	The symbol appears on the screen.
Adjustment of the selected function	$\square$ $\square$	The level has been adjusted.

#### Picture adjustment

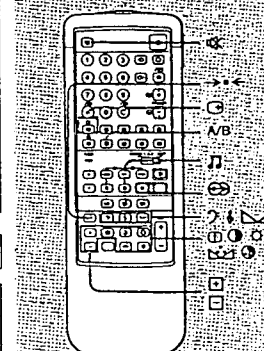
Adjustment	Symbol	Result (+ $\leftrightarrow$ -)
Colour	$\odot$	Further or lesser colour intensity
Contrast	$\odot$	Further or lesser contrast
Brightness	$\odot$	Bright ( $\leftrightarrow$ ) dark
Hue (for NTSC only)	$\times$	More red $\leftrightarrow$ more green
Picture definition	$\square$	More definition $\leftrightarrow$ less definition

#### Sound adjustment

Adjustment	Symbol	Result (+ $\leftrightarrow$ -)
Bass	$\text{?}$	More of low frequencies $\leftrightarrow$ less of low frequencies
Treble	$\text{!}$	More of high frequencies $\leftrightarrow$ less of high frequencies
Speakers balance	$\text{M}$	Volume increase from right speaker $\leftrightarrow$ Volume increase from left speaker

Reversion to the original adjustment

Press  $\rightarrow$   $\leftarrow$ .





## 1-4. USE OF THE TELETEXT SERVICE

### Broadcasting station identification

By associating a name with a certain broadcasting station it is possible to avoid having to remember, each time, in which channel number that particular station has been memorized.  
Five different characters are available for station identification.

Operation		Result
<b>1</b> By using PROGR + or -, or the number keys of the remote control unit, select the programme number to be set for identification.		The programme number to be set for identification appears on the screen.
<b>2</b> Press →		The number flashes on the screen.
<b>3</b> Press □		The first indication line flashes on the screen.
<b>4</b> Using the □ + or - buttons select a letter of the alphabet, a number, or a blank space.		Alphabet letters, numbers or a blank space (" ") appear on the screen, in that order.
<b>5</b> Press □		In this way the first character has been set, and the following position now flashes on the screen.
<b>6</b> Repeat steps 4 and 5, and fill all five available spaces.		
<b>7</b> Press ◇		All indications under the programme number disappear from the screen. All indications remaining on the screen have been memorized.

### Manual fine tuning

If the picture is not perfect, it is possible to fine tune it manually.

Operation	Result
Press □ + or - repeatedly until the picture is at the optimum.	The indication →F← appears on the screen.
Press → to start preselection.	The programme number starts flashing on the screen.
Press ◇	Manual fine tuning has been memorized.

Note: Manual fine tuning will be reset when the channel is selected again.

Through the teletext service a great deal of information can be received at any time. Broadcasting stations make this service available through TV broadcasts. To use the teletext service, use the green keys on the "complete" side of the remote control unit. When the "simple" side of the remote control unit is used, only the basic functions are available.

### How to display teletext service





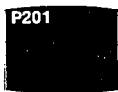
Operation	Result
<b>1</b> Select the channel you want to watch.	The channel changes on the screen.
<b>2</b> Press □	If there is no teletext signal, the indication "Page 100" appears on the screen.
<b>3</b> Use the number keys of the remote control unit to insert the three figures corresponding to the desired teletext page. Note In case of a mistake, press any three numbers, and then repeat the operation with the correct numbers.	The selected page number appears on the screen. After a few seconds, the selected page appears on the screen.
To revert to normal TV programmes: Press □.	
To change teletext channel: First press □ to revert to the TV mode, and then repeat procedure steps 1 to 3.	

Note: A weak TV signal may cause troubles in the use of teletext.

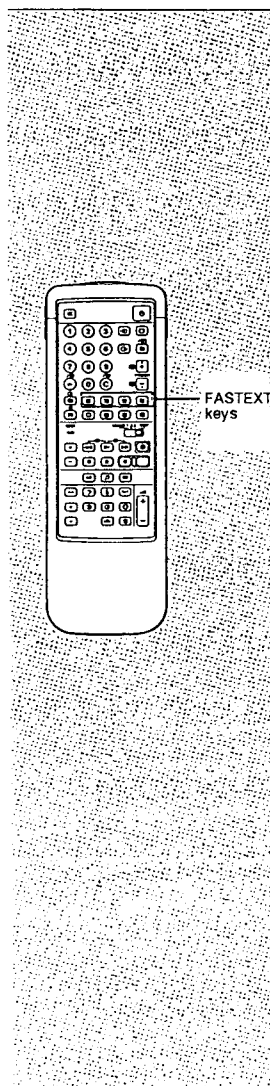
### Use of special teletext functions

Required function	Operation	Result (on the screen)
Page index required.	Press □ (INDEX).	Page index appears.
Sub-pages required (page 888).	Press □	The sub-page appears (page 888).
Access to previous or following pages.	Press □ (PAGE +) or □ (PAGE -).	The preceding or the following page appears.



Required function	Operation	Result (on the screen)
Superimposition of the teletext on the TV programme.	In the TV mode, press <b>STILL</b> twice.  To revert to the normal teletext function press <b>TXT/MIX</b> again.	 Teletext information will appear superimposed on the TV programme.
To prevent page changes due to page up-dating.	Press <b>STILL</b> . Press <b>TXT/MIX</b> to revert to the normal function.	 The <b>STILL</b> symbol appears on the screen.
Magnification of teletext characters.	Press once to magnify the upper half of the screen. Press twice to magnify the lower half of the screen. Pressing the button three times the normal vision is restored.	 The upper or the lower half of the page is magnified.
Display of hidden information (answers to quizzes, ecc.).	Press <b>RIV</b> .  Press again to hide the answers.	 The information is displayed.
Watching a programme while the teletext searches for the required page.	1. Ask again for the page.	The number is displayed.
	2. Press <b>STILL</b>	TV programme is displayed.
	3. When the required page has been found, the page number will be displayed.	 P201
	4. Press <b>STILL</b> to display the page.	The desired page will be displayed.
Display of a page at a preset time.	1. Request the page.	The selected page will be displayed.
	2. Press <b>MEM.T</b> .	In the lower part of the screen the indication "T*****" appears.
	3. Set the required time by using the number keys, and by inputting four figures (e.g. 0730 for "7:30").	The required time is displayed on the screen.
	<p>To watch TV programmes until a preset time Press <b>CANC.</b>. At the required time, the selected page appears in the upper part of the screen. Press <b>STILL</b> to display the page.</p> <p>To cancel the request Display the teletext page and then press <b>CANC.M.</b></p>	

Note: Depending on the teletext service, certain functions may not be available.



### Use of the FASTEXT function

The FASTEXT function allows rapid access, at the touch of a single button, to the teletext functions. In the lower part of the screen, a colour coded index will be displayed when a FASTEXT teletext page is broadcasted. Each colour corresponds to the coloured keys on the remote control unit.

#### Operation

Operation	Result
Press one of the coloured key on the remote control unit corresponding to the coloured indications of the FASTEXT teletext page.	The selected teletext page appears on the screen.

#### Note

The correct use of the FASTEXT teletext function depends on the signal being broadcast by the TV stations. Some TV stations may not broadcast FASTEXT teletext signal.



## 1-5. CONNECTIONS AND OPTIONAL FUNCTIONS

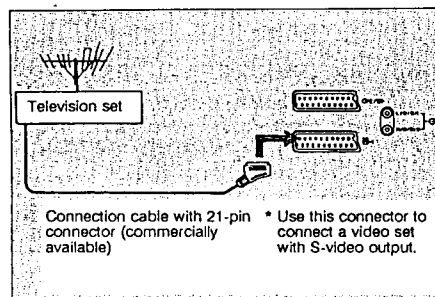
This TV set may be connected to other audio/video machines, such as videocameras, VTRs, videodisc players, or stereo systems.

### Connection to an external audio/video system

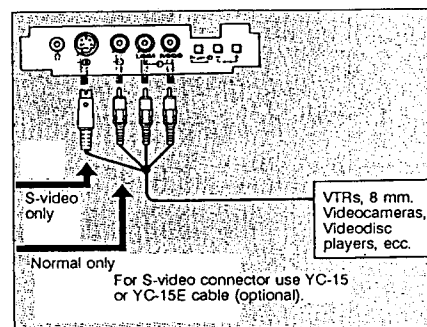
This TV set incorporates three groups of connectors, for input and output to the TV signal. Each group has the following characteristics.

Connector	Input signal	Output signal
Ⓐ-1	Normal audio/video signal or RGB signal	TV tuner audio/video signal
Ⓒ-2/Ⓓ	Normal audio/video signal and S-video signal	Audio/video signal from a selectable source
Ⓔ, Ⓕ, Ⓖ front panel	Normal audio/video signal and S-video signal	No signal

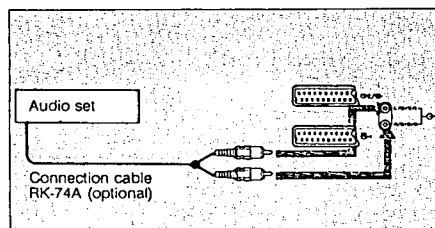
### Connection of a TV set



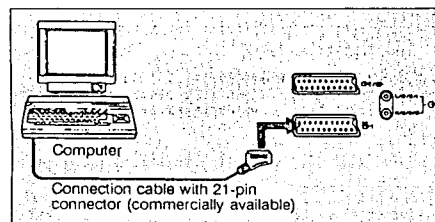
**Temporary connection of video apparatus**  
For a temporary connection (e.g. of a videocamera) use the front panel terminals.



### Connection of an audio unit



### Connection to a computer with RGB output



**Connection of a video taperecorder through the "r" connector**  
Connect the antenna input (AERIAL-IN) of the TV set to the antenna output (AERIAL-OUT) of the video taperecorder.

**S-video input (Y/C input)**  
The video signal is formed by two separate signals: the luminance (Y) and the chrominance (C). Through the separation of the two signals it is possible to improve picture quality (luminance in particular), preventing reciprocal interferences. This TV set features two S-video sockets able to directly receive this type of signal.

**Pictures with distortion**  
Move the TV set away from the video taperecorder if pictures or sound become distorted.

### Video programme playback

Using the input selector, pictures coming from a video taperecorder connected to the TV sets input, may be played back.

#### Operation

Operation	Result
Select the desired video input by pressing Ⓔ repeatedly.	The symbol of the selected input appears on the screen (see table hereunder).
Press Ⓕ button to revert to TV mode.	

#### Selectable inputs

Symbol	Selected input
Ⓔ-1	Audio/video signal from Ⓐ-1 connector.
Ⓔ	RGB signal from Ⓐ-1 connector.
Ⓔ-2	Audio/video signal from Ⓒ-2/Ⓓ connector.
Ⓔ-2	S-video signal (from a VTR with S-video output) from Ⓒ-2/Ⓓ connector.
Ⓔ-3	Audio/video signal from Ⓔ, Ⓕ connector located on the front panel.
Ⓔ-3	S-video signal from S-video Ⓔ (4 pin) connector located on the front panel.

Input can be selected also with Ⓔ-1, Ⓔ-2, Ⓔ-3 buttons of the TV set.

In this case, first select Ⓔ, and then press the +/− buttons to select the desired input.

### Selection of video output from a Ⓒ-2/Ⓓ connector

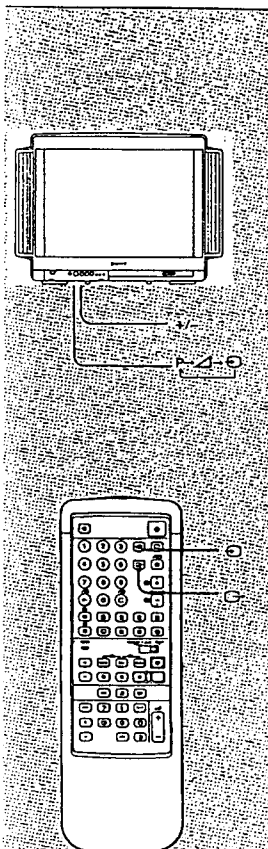
The Ⓒ-2/Ⓓ connector may output 4 video signals. Select the outgoing video signal in the following way.

#### Operation

Operation	Result
Press Ⓒ repeatedly to select the desired video input.	The selected video input symbol appears on the screen (see the table following).

#### Output signal

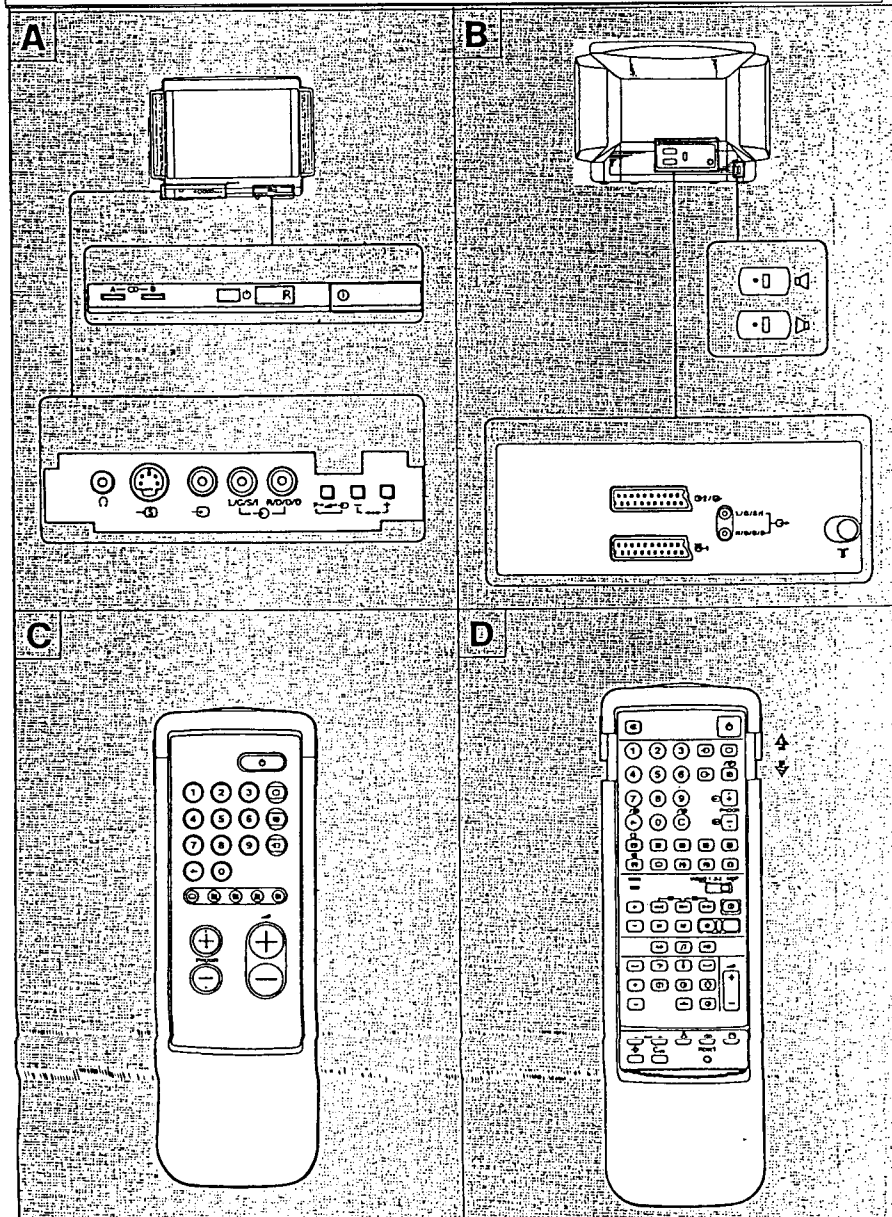
Symbol	Selected output
1Ⓒ	Audio/video signal from Ⓐ-1 connector.
2Ⓒ	Audio/video signal from Ⓒ-2/Ⓓ connector.
3Ⓒ	Audio/video signal from Ⓔ and Ⓕ connectors.
TV Ⓒ	Audio/video signal from T-type antenna connector "r".





## 1-6. GENERAL INFORMATION

### Components identification



This section briefly describes controls of the TV set and the remote control unit, and their relevant functions.

A TV set front panel	
Indication	Description
	Power switch
	Stand-by switch
A-B	Bilingual function indications
	Headphones connector (stereo mini-jack)
	Input connectors (S-video/video/audio)
	Function selector (programme/volume/input)
	Function adjustment keys

B TV set rear panel	
Indication	Description
	Speaker connectors (upper: left speaker; lower: right speaker)
	Connector 2, Euro AV (SCART, 21-pin). S-video in/video in/TV/video out signals.
	Connector 1, Euro AV (SCART, 21-pin). RGB in/video in/TV/out signals.
	Audio output connectors (RCA pin)
	Antenna connector (of IEC standard)

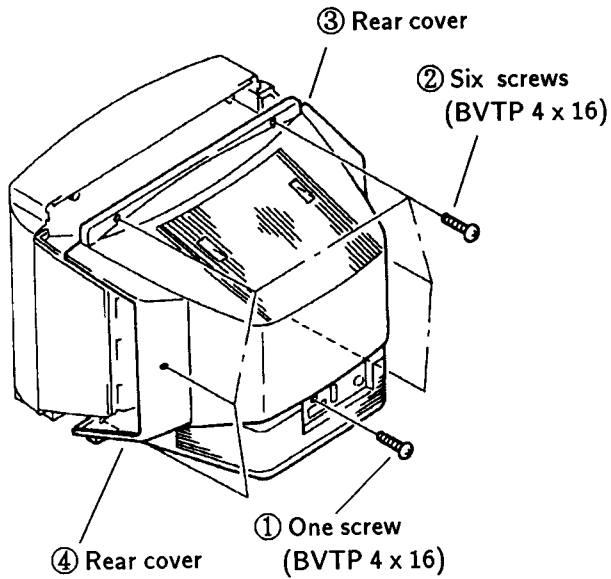
C Remote control unit — simplified side	
Indication	Description
	Input selector
	Teletext service key
	TV set power switch and TV mode selector
	Standby key
1,2,3,4,5,6,7,8,9,0	Number keys
-/-	Channel selection key/ 2-figure programmes
	Volume adjustment key
PROGR +/-	Programme selection key

D Remote control unit — complete side	
Indication	Description
	Sound muting key
	Standby key
1,2,3,4,5,6,7,8,9,0	Number keys
	Input selector
	TV set power switch and TV mode selector
	Output selector
	Teletext key
	Music programme key
A/B	Bilingual programmes language selection
-/-	Channel selection key/ 2-figure programmes
C	Channel direct selection key
	Special sound effect key
	Time display
	Teletext operation keys
	Display key
	Reset key
	Volume adjustment keys
PROGR +/-	Programme selection keys
	Image and audio adjustment keys
MEM	MEM light indication
VIDEO 1/2/3, MDP	Video unit selector
	Video units function key
Coo	Programme cancelling key
	Channel presetting key
+ [ ] -	Channel tuning keys
	Channel storing keys
	Broadcasting stations identification key
RESET	Cancel key

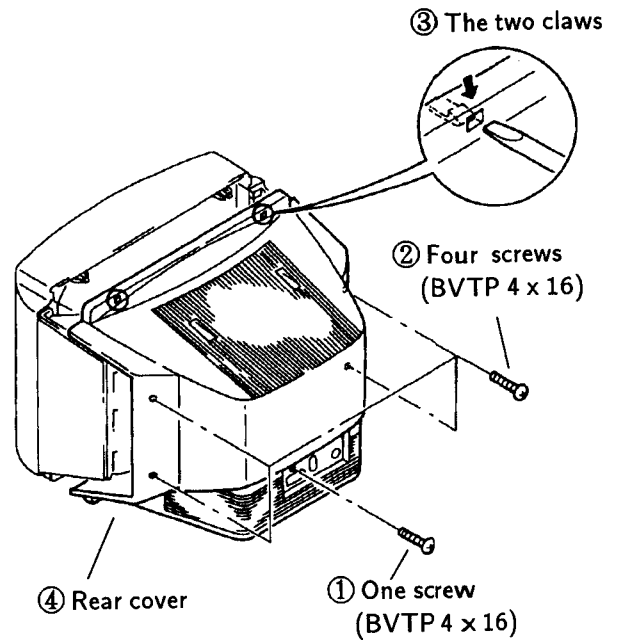


## SECTION 2 DISASSEMBLY

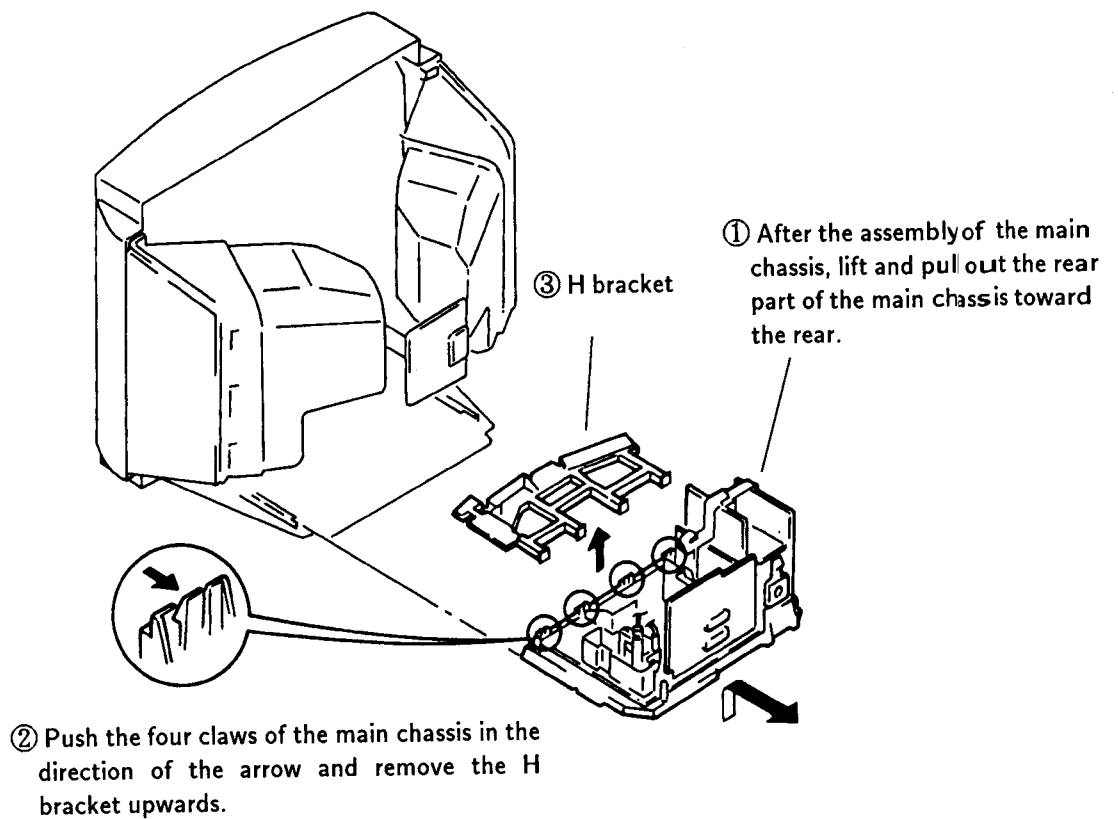
### 2-1-1. REAR COVER REMOVAL (21 inch)



### 2-1-2. REAR COVER REMOVAL (25 inch, 29 inch)

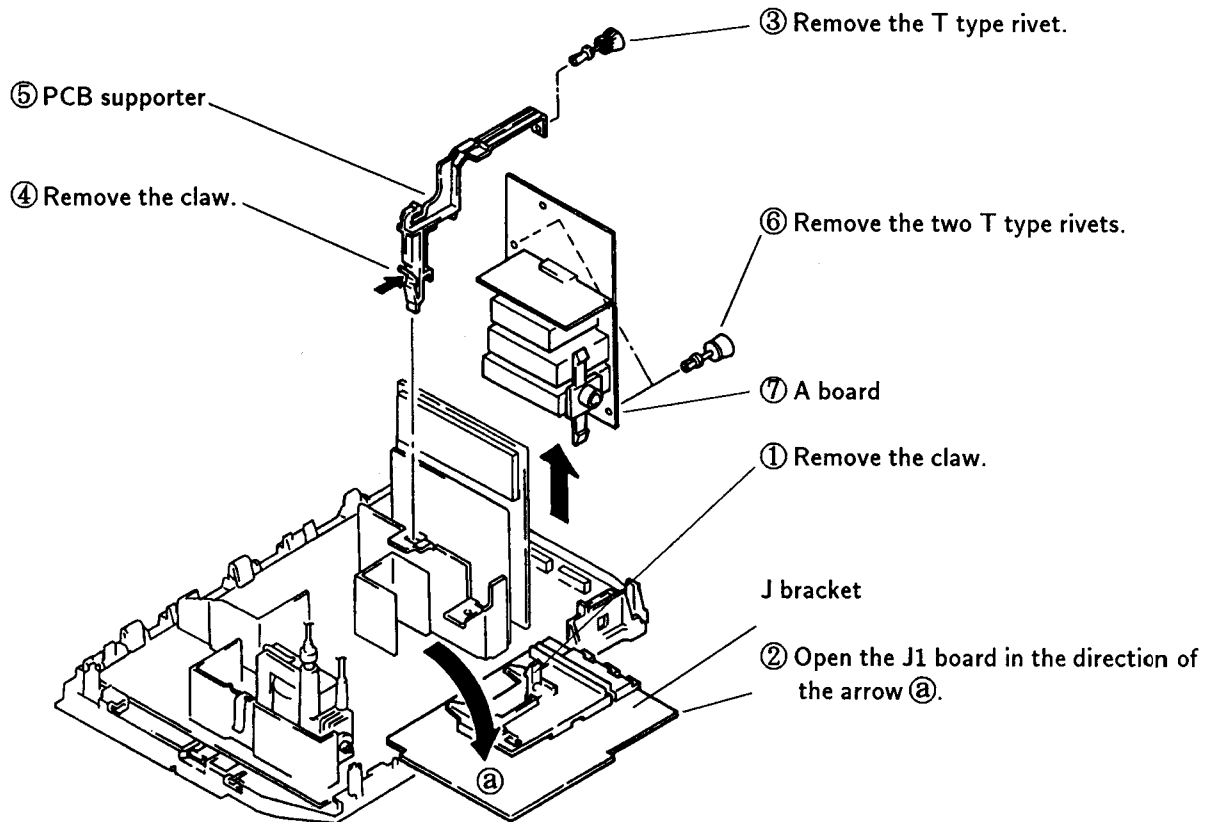


### 2-2. CHASSIS ASSEMBLY REMOVAL

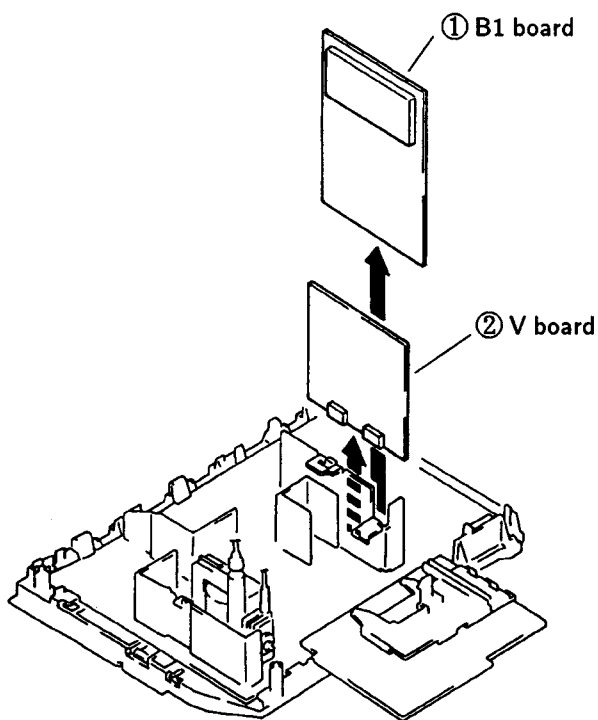




### 2-3. A AND J1 BOARDS REMOVAL

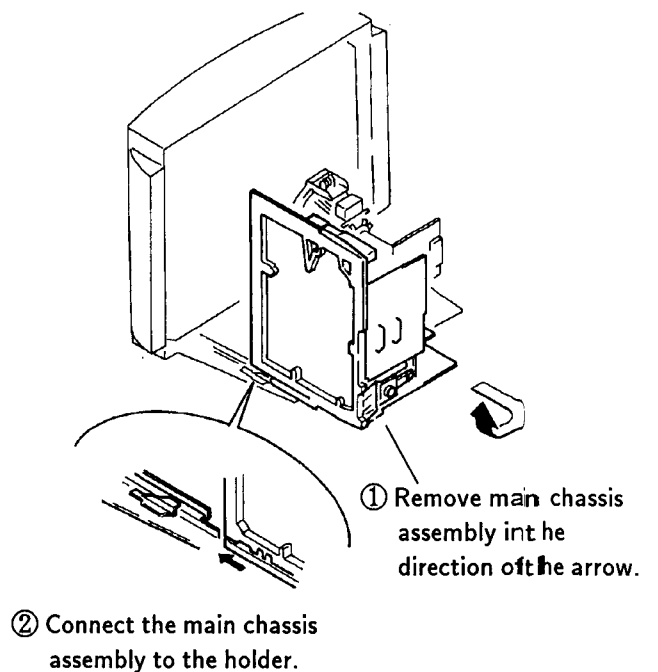


### 2-4. B1 AND V BOARDS REMOVAL



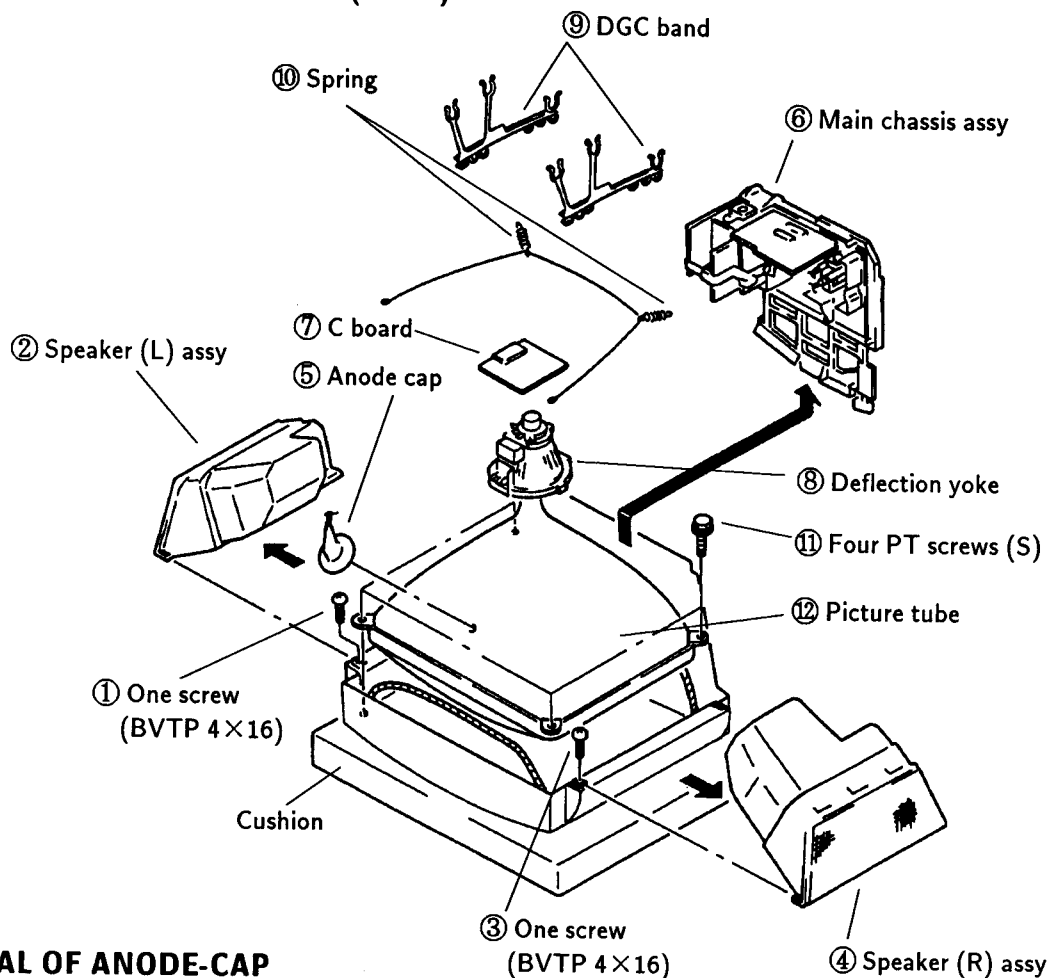
### 2-5. SERVICE POSITION

※ Remove the H bracket from the main chassis assembly and then perform the following servicing.  
(Refer to 2-2. CHASSIS ASSEMBLY REMOVAL.)





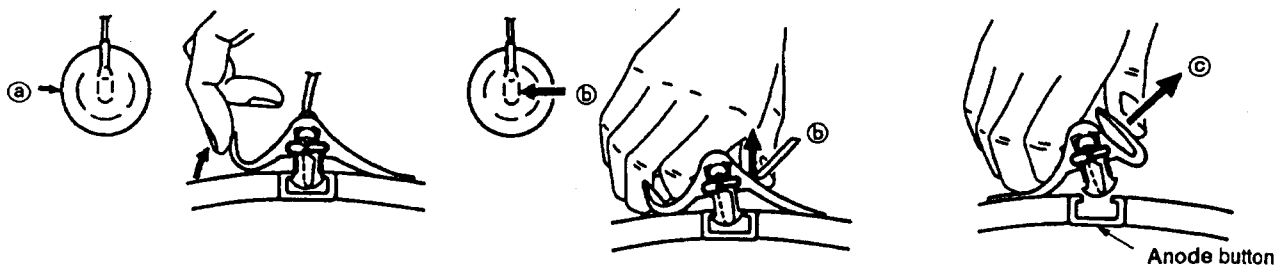
## 2-6-1. PICTURE TUBE REMOVAL (21 inch)



### • REMOVAL OF ANODE-CAP

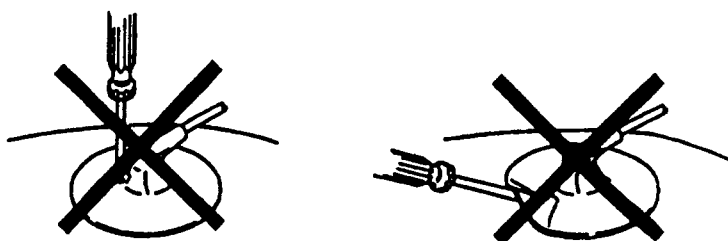
NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

#### • REMOVING PROCEDURES



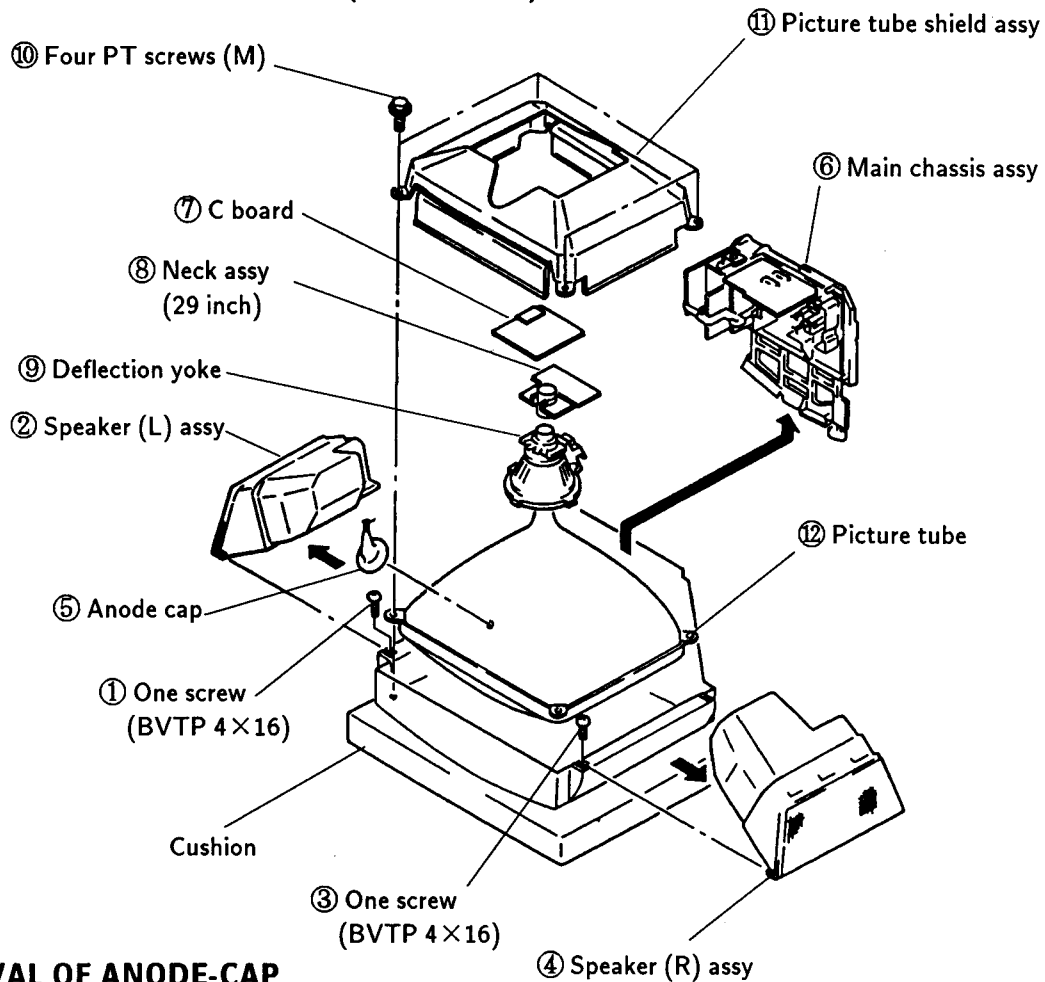
#### • HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!  
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!  
The shatter-hook terminal will stick out or hurt the rubber.





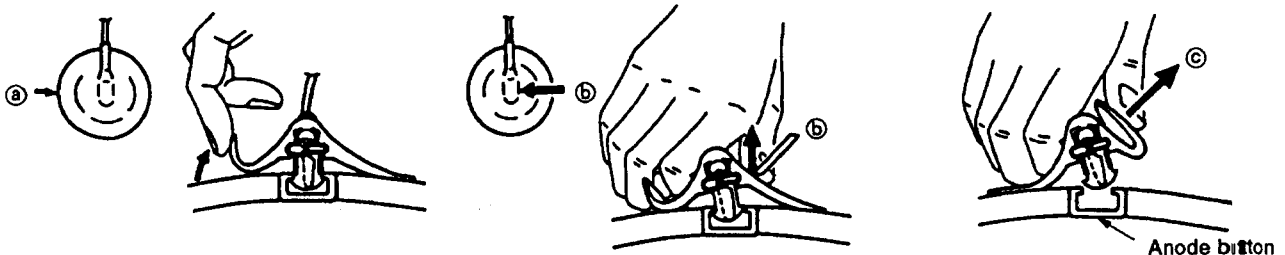
## 2-6-2. PICTURE TUBE REMOVAL (25 inch, 29 inch)



### • REMOVAL OF ANODE-CAP

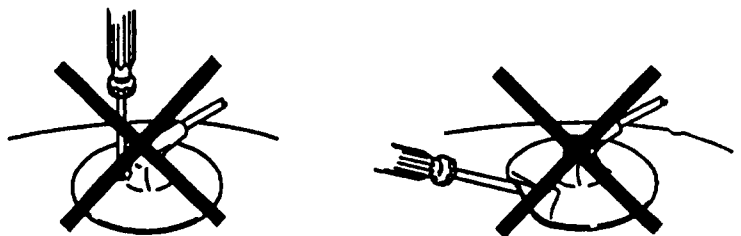
NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

#### • REMOVING PROCEDURES



#### • HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!  
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!  
The shatter-hook terminal will stick out or hurt the rubber.





## SECTION 3

### SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted. The controls and switch below should be set as follows unless otherwise noted :

● CONTRAST control..... 80%(or Normal by commander)

⚙ BRIGHTNESS control..... 50%

Perform the adjustments in order as follows:

#### Preparation: (21 inch, 25 inch)

- Set the side of the unit with the PICTURE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser..

#### 3-1. BEAM LANDING

Demagnetize with a degausser

1. Input a raster signal with the pattern generator.

CONTRAST } normal  
BRIGHTNESS }

2. Turn the raster signal of the pattern generator to red.
3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides evenly.  
(Fig.3-1 - 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig.3-1)
5. Switch over the raster signal to blue and blue and confirm the condition.
6. When the position of the deflection yoke is determined, tighten it with a deflection yoke mounting screw.
7. When landing at the corner is not right, adjust by using the disk magnets. (Fig.3-4)

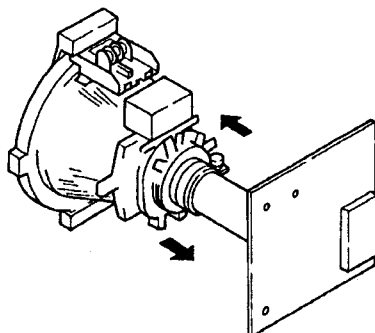


Fig.3-1

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G 2) and White Balance

**Note:** Test Equipment Required.

1. Color bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

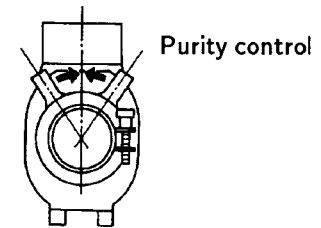


Fig.3-2

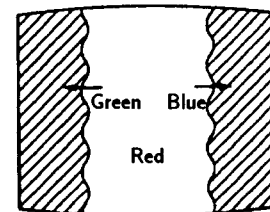


Fig.3-3

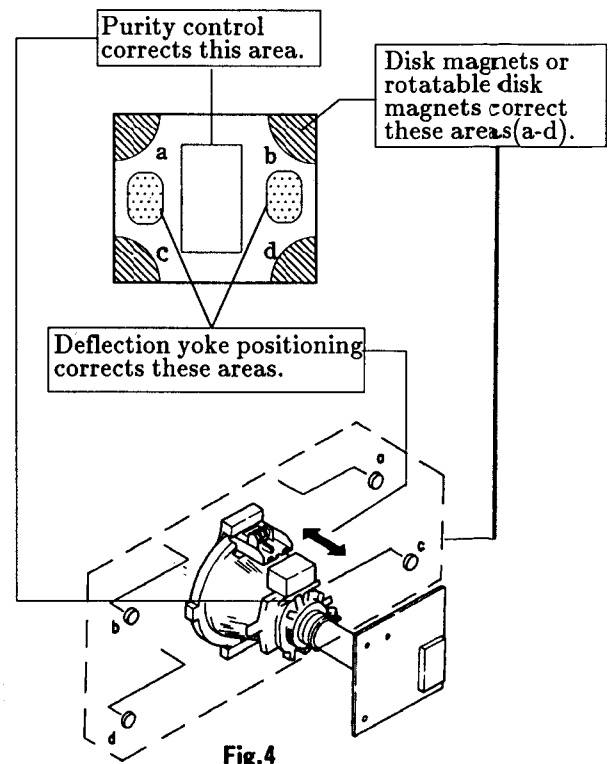


Fig.4

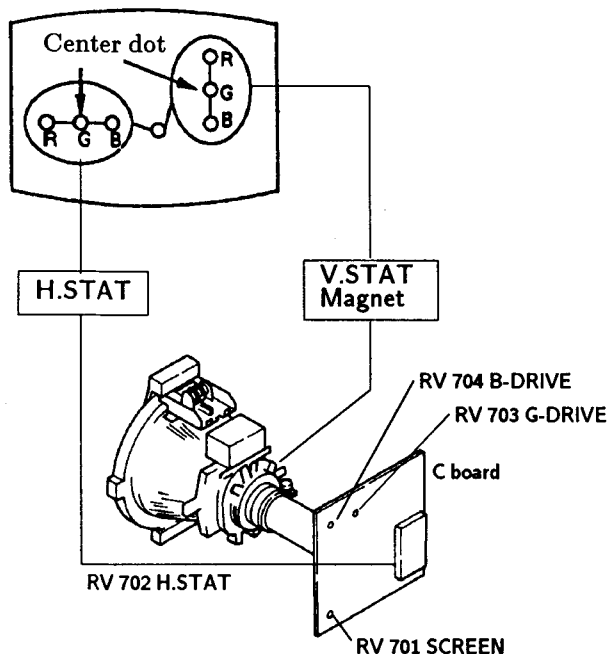


### 3-2. CONVERGENCE

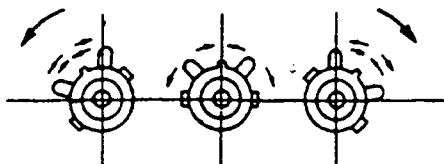
#### Preparation:

- Before starting, perform FOCUS, H.SIZE, and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

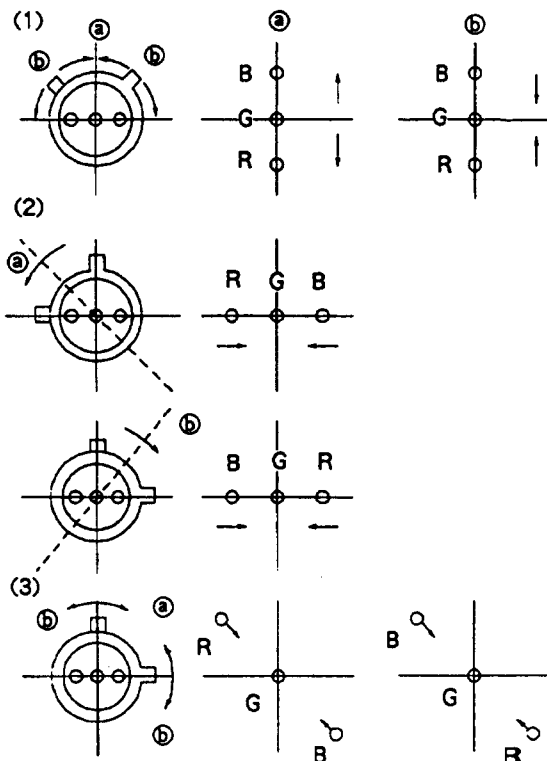
#### (1) Horizontal and Vertical Static Convergence



1. Adjust H.STAT VR to converge red, green and blue dots the in center of the screen.(Horizontal movement)
  2. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
  3. If the red, green and blue dots do not converge on the center of screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)
- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.



4. When the V.STAT magnet is moved in the direction of arrow (a) and (b), red, green and blue dots move as shown below.



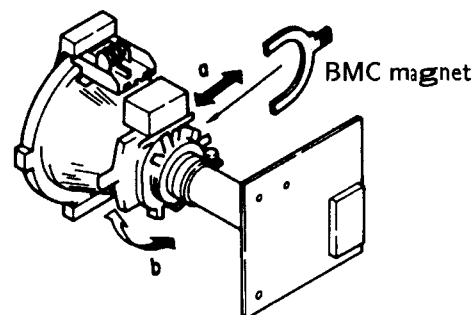
(KV-21 inch only)

If the red and blue dot do not converge with green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H.static convergence.

Rotate BMC magnet (b) to correct insufficient V.static convergence.

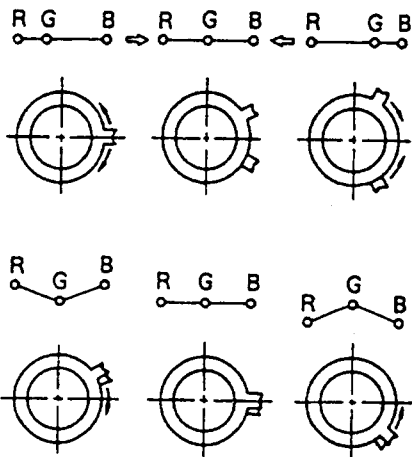
In either case, repeat Beam Landing Adjustment.





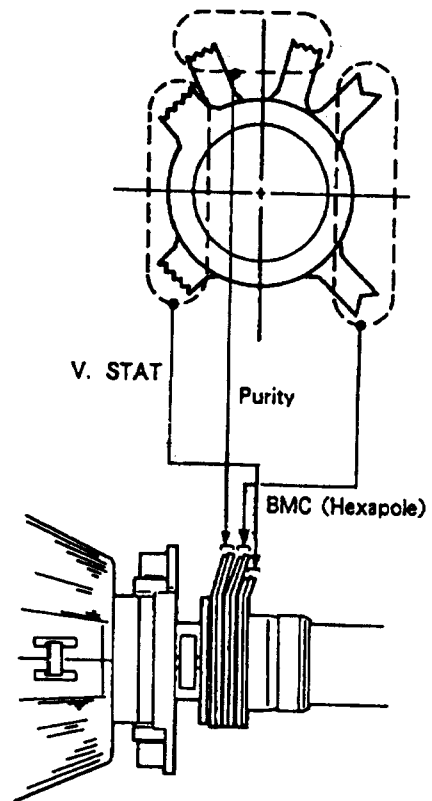
(KV-25 inch only)

● Operation of BMC (Hexapole) Magnet



- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.

Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).



(2)Dynamic Convergence Adjustment

**Preparation:**

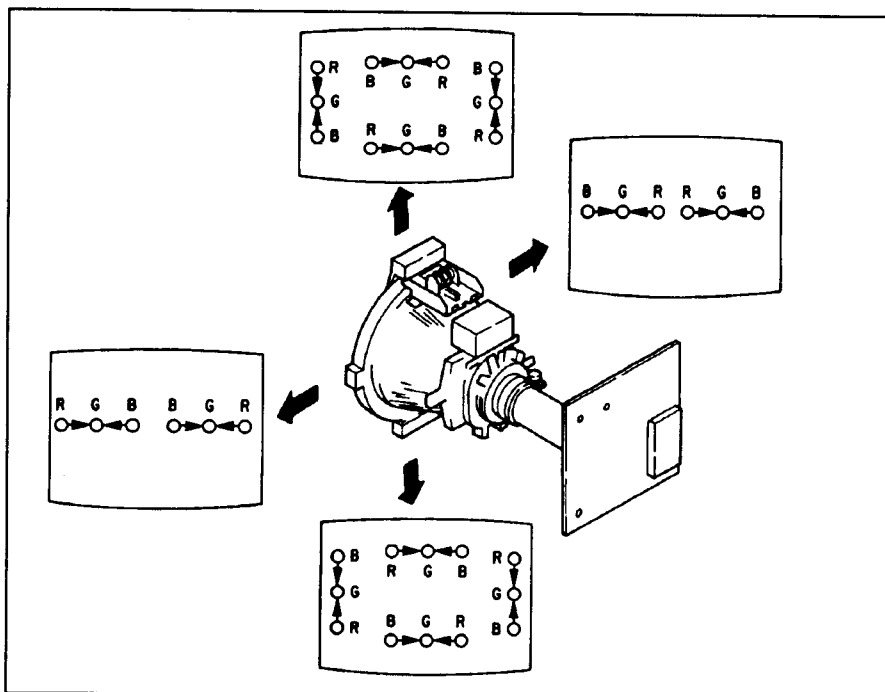
- Before starting perform Horizontal and Vertical static convergence Adjustment.

1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.

3. Move the deflection yoke for best convergence as shown below.

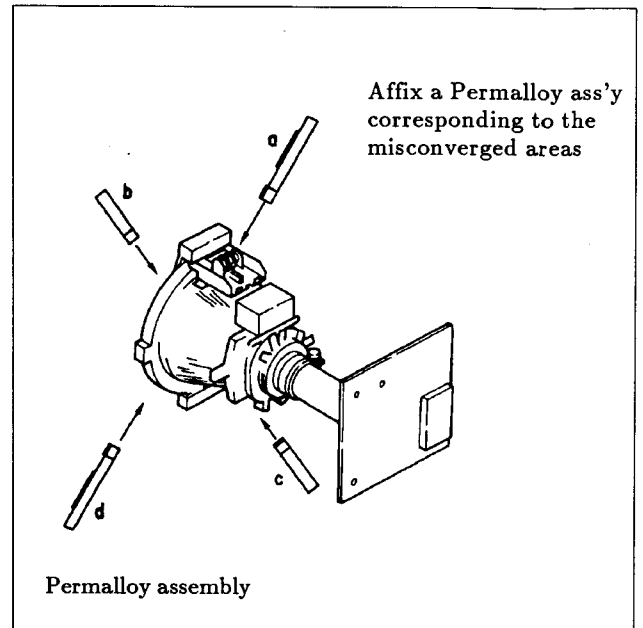
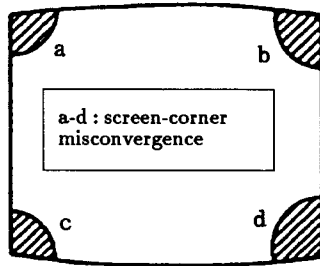
4. Tighten the deflection yoke screw.

5. Install the deflection yoke spacers.



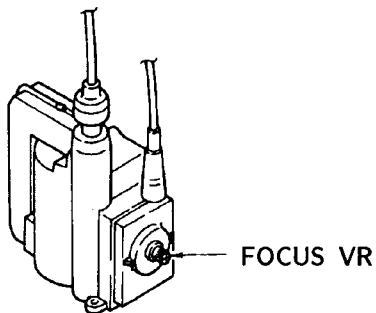


### (3) Screen-corner Convergence

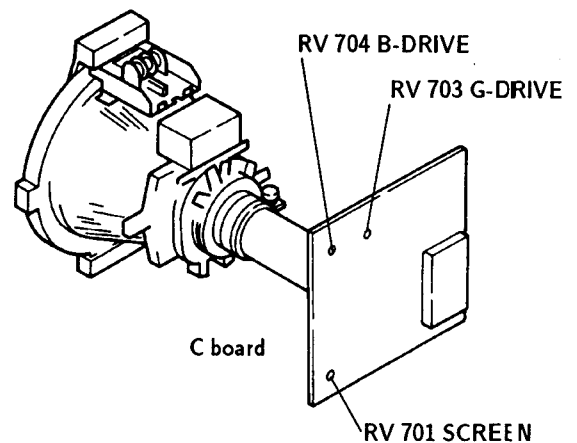


### 3-3. FOCUS

Adjust FOCUS so that the whole screen is in best focus.



### 3-4. SCREEN (G 2) and WHITE BALANCE



#### Screen (G 2) Setting

1. Input dot signal from the pattern generator.
2. Set the picture BRIGHTNESS control to minimum level.
3. Apply 170 V DC to the cathodes of R,G and B from an external power source.
4. While watching the picture, adjust the G 2 volume (RV701) immediately before fly-back line disappears.



---

### White Balance Adjustment

1. Input all-white signal from the pattern generator.
2. Adjust the BRIGHTNESS and COLOR controls to the standard level.
3. Adjust the following using RV 704 (B DRIVE) and RV 703 (G DRIVE)

In the following adjustments, the CONTRAST, COLOR and BRIGHTNESS controls are set to normal unless otherwise specified.



### Preparations : (29 inch)

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

### 3-1. BEAM LANDING

1. Input the white signal with the pattern generator.  
Contrast } normal  
Brightness }
2. Position neck ass'y as shown in Fig 3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.  
(See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.  
(See Figure 3-4.)

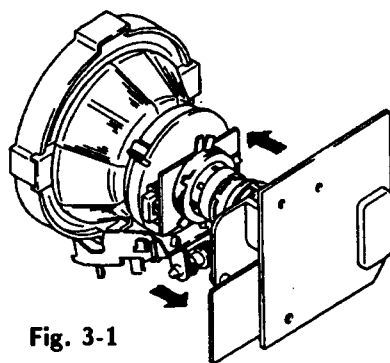


Fig. 3-1

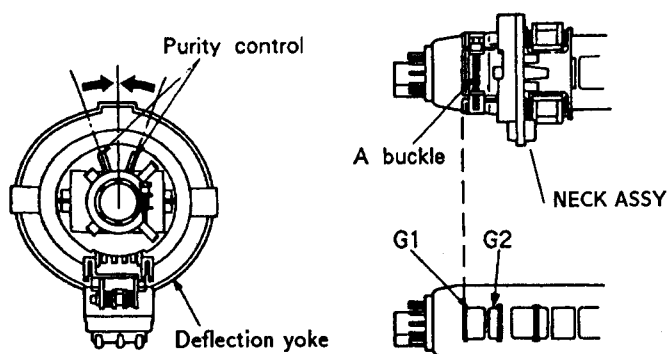


Fig. 3-2

Fig. 3-3

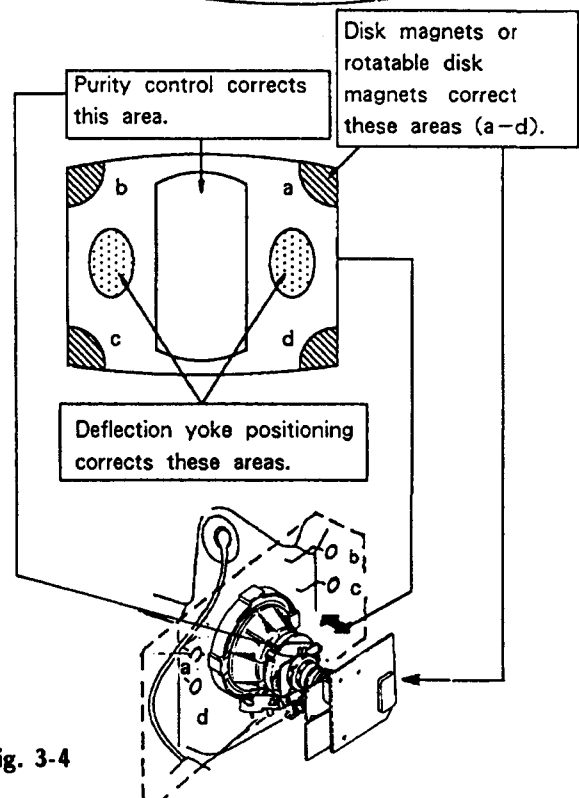
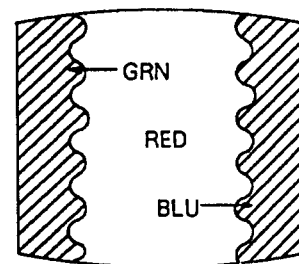


Fig. 3-4

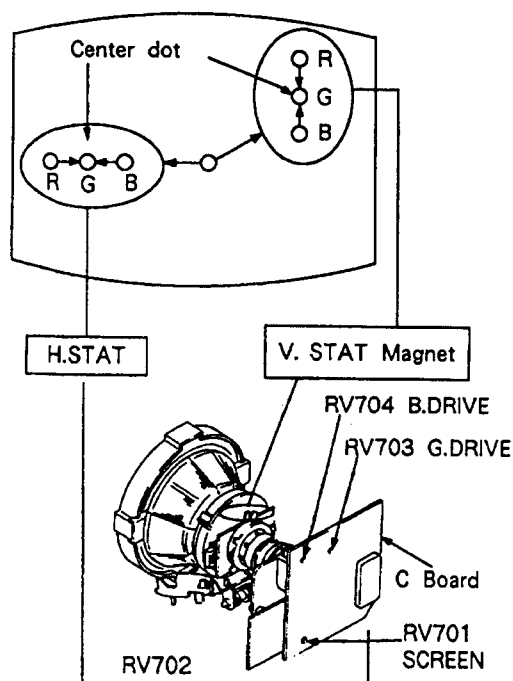


## 3-2. CONVERGENCE

### Preparations :

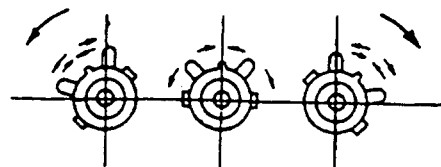
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

### (1) Horizontal and vertical static convergence

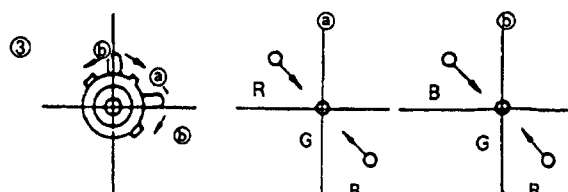
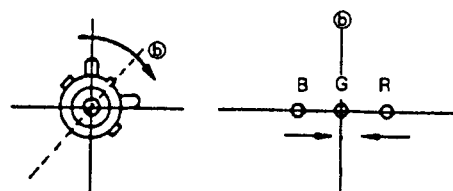
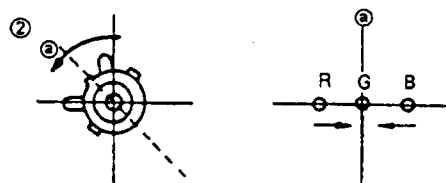
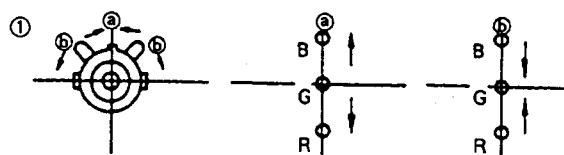


1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.  
(In this case, the H.STAT variable resistor and the V. STAT magnet influence each other)

- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.

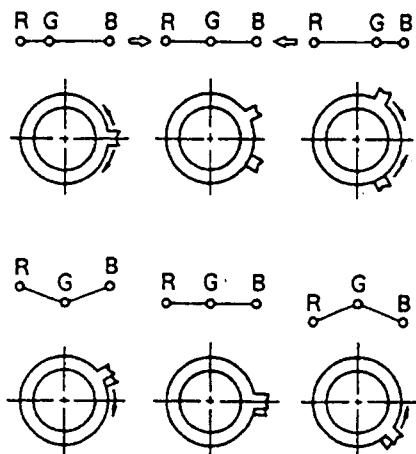


4. If the V.STAT magnet is moved in the direction of the ① and ② arrows, the red, green, and blue points move as shown below.

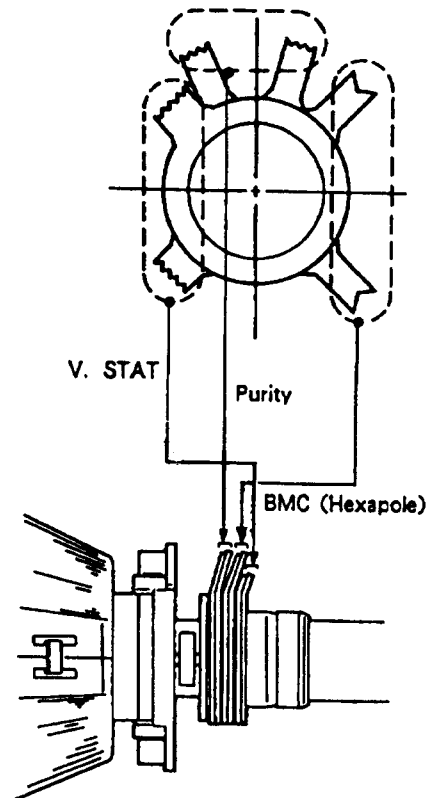




● Operation of BMC (Hexapole) Magnet



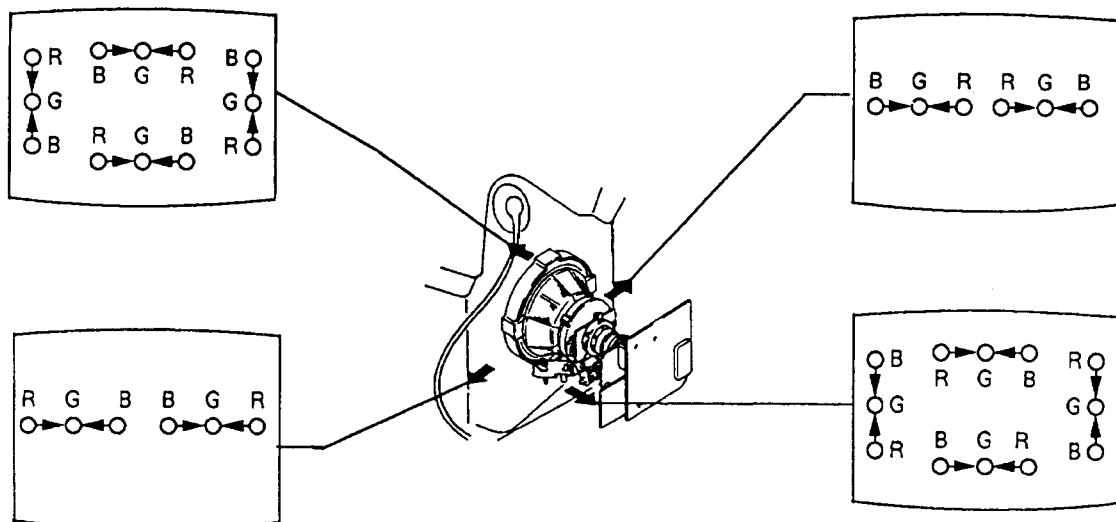
- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.  
Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).



(2) Dynamic convergence adjustment

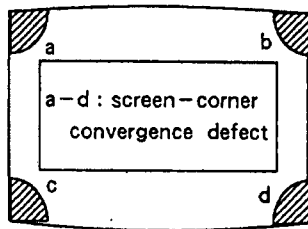
**Preparations :**

- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.
1. Slightly loosen the deflection yoke screws.
  2. Remove the deflection yoke spacer.
  3. Move the deflection yoke as shown in the figure below and optimize the convergence.
  4. Tighten the deflection yoke screws.
  5. Install the deflection yoke spacer.

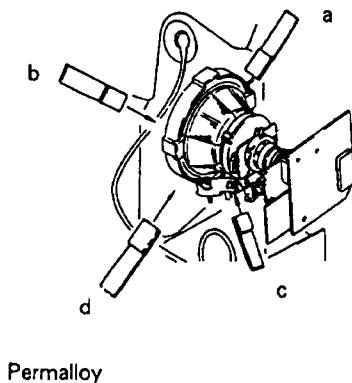




### (3) Screen corner convergence

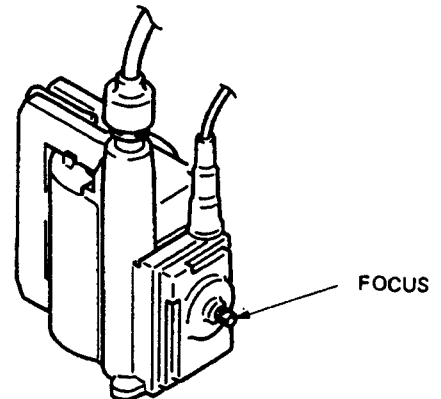


Install the permalloy assembly for the section with faulty.



### 3-3. FOCUS

Adjust the focus to optimize the screen.



### 3-4. WHITE BALANCE

#### [ Screen G2 setting ]

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 170V DC to the R, G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

#### [ White balance adjustment ]

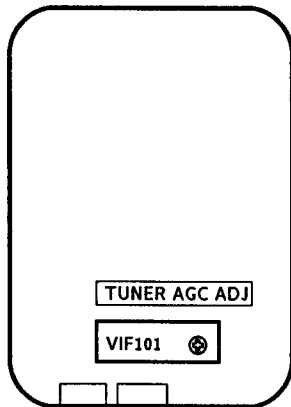
1. Input an all-white signal from the pattern generator.
2. Set the picture brightness and color controls to their normal levels.
3. Use the RV704 (B Drive) and RV703 (G Drive) to adjust white balance.

In the adjustments below, have the picture color and brightness settings at their normal levels unless there is a specific instruction to the contrary.



## SECTION 4 CIRCUIT ADJUSTMENTS

### 4-1. A BOARD ADJUSTMENTS

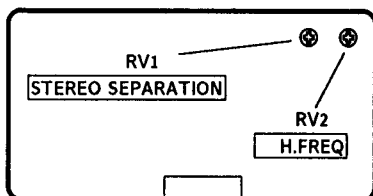


A BOARD (COMPONENT SIDE)

#### TUNER AGC ADJUSTMENT (AGC VR)

1. Align with an appropriate signal between stations.
2. Adjust AGC VR so that snow noise and cross modulation just disappear from the picture.

### IFG5.5S SIF



IFG5.5S SIF -component side-

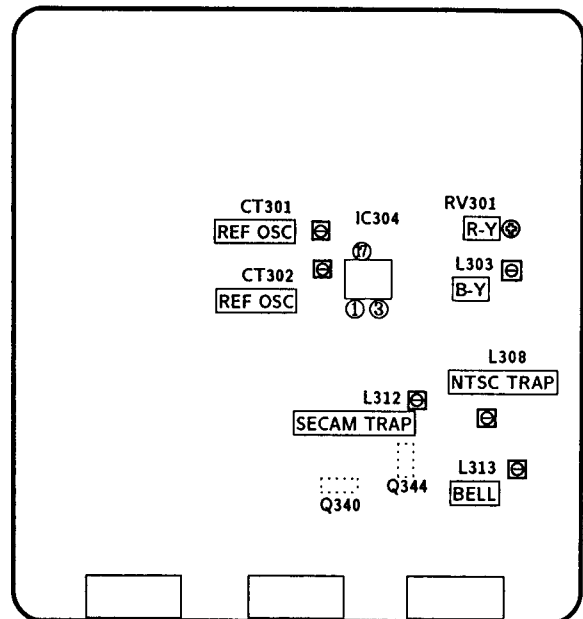
#### STEREO SEPARATION ADJUSTMENT (RV1)

1. Input stereo signals. (L-CH 400Hz, R-CH 1KHz)
2. Check the stereo indicator.
3. Connect an oscilloscope to pin ⑧ (CH1) of CN1 through a band pass filter of 1KHz
4. Adjust RV1 so that 1KHz voltage goes down to the minimum.

#### H FREQ (RV2)

1. Input a PAL COLOR BAR signal, then connect a jumper between pin ⑫ IC4 and GND.
2. Connect a frequency counter to pin ④ IFG5.5S (HP) of CN1 through a probe of 10 : 1.
3. Adjust RV2 (H.FREQ)  $15.625 \pm 50\text{Hz}$ .
4. After adjustment, remove the jumper.

### 4-2. B1 BOARD ADJUSTMENTS



B1 BOARD (COMPONENT SIDE)

#### REFERENCE OSCILLATOR ADJUSTMENT (CT302 8.8MHz)

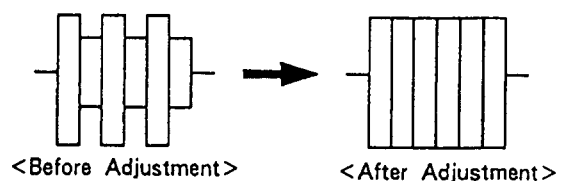
1. Input a PAL color bar signal.
2. Ground pin ⑮ of the IC304.
3. Adjust CT302 to obtain synchronization.

#### REFERENCE OSCILLATOR ADJUSTMENT (CT301 7.16MHz)

1. Input an NTSC color bar signal.
2. Ground pin ⑮ of IC304.
3. Adjust the CT301 to obtain synchronization.
4. Remove the jumper grounding pin ⑮ of IC304.

#### BELL FILTER ADJUSTMENT (L313)

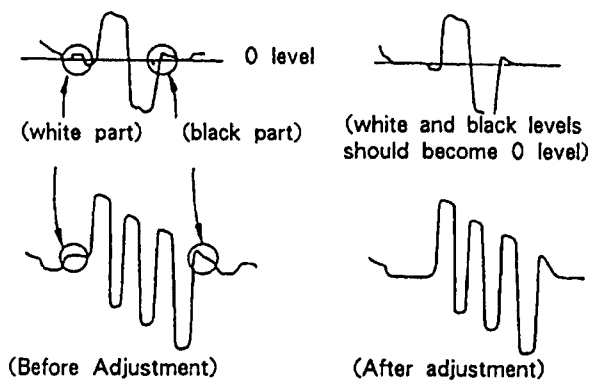
1. Input a SECAM color bar signal.
2. Connect the oscilloscope to the emitter of Q344.
3. Adjust L313 so that the waveform is flat.





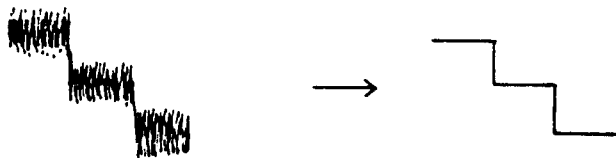
### DISCRIMINATION ADJUSTMENTS (RV301 and L303)

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to pin ① of IC304.
3. Adjust RV301 until the white and black sections of the waveform at pin ① are at the 0 level.  
Connect the oscilloscope to pin ③ of IC304.
4. Adjust L303 until the white and black sections of the waveform at pin ③ are at the 0 level.



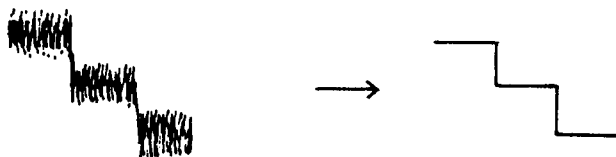
### SECAM TRAP (L312)

1. Input a SECAM color bar signal.
2. Connect oscilloscope to Q340 emitter and adjust L312 to minimize color carrier on the Y-signal.

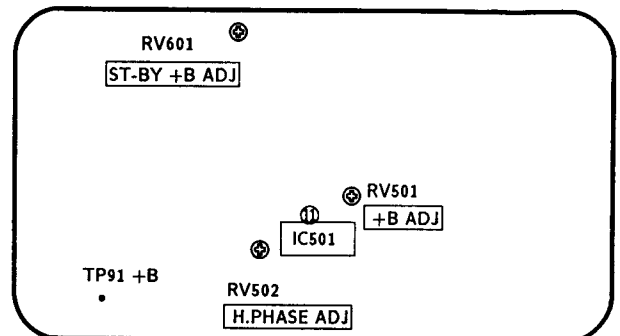


### NTSC TRAP (L308)

1. Input a NTSC (3.58) color bar signal.
2. Connect oscilloscope to Q340 emitter and adjust L308 to minimize color carrier on the Y-signal.



### 4-3. D BOARD ADJUSTMENTS



D BOARD (COMPONENT SIDE)

#### +B ADJUSTMENT (RV501)

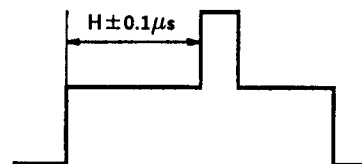
1. Connect the digital multimeter to TP91.
2. Adjust RV501 to obtain  $135 \pm 0.2V$ .

#### ST-BY +B ADJUSTMENT (RV601)

1. Put the system into  $\text{⏻}$  standby mode (remote commander).
2. Connect the digital multimeter to TP91.
3. Adjust RV601 to obtain  $135 \pm 3V$ .
4. Take the system out of  $\text{⏻}$  standby mode (remote commander).

#### H.PHASE ADJUSTMENT (RV502)

1. Input a PAL color bar signal.
2. Set the picture and brightness controls to their normal levels.
3. Set RV1508 (H.CENT) to its mechanical center.
4. Connect the oscilloscope to pin ⑪ (SCP) of IC 501.
5. Rotate RV502 to adjust to  $H \pm 0.1\mu s$ .

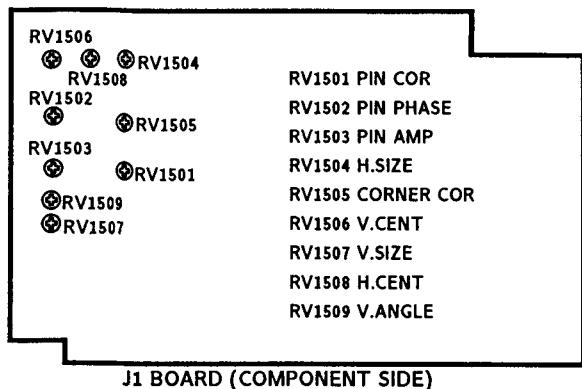


Standard of H. PHASE

Model Size	H
21 "	$5.6\mu s$
25 "	$5.1\mu s$
29 "	$5.5\mu s$



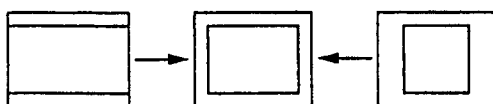
#### 4-4. J1 BOARD ADJUSTMENTS



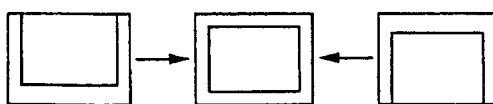
RV1508  
H. CENT (HORIZONTAL CENTER)



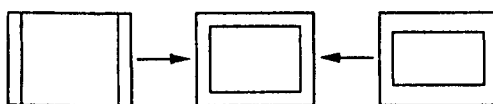
RV1504  
H. SIZE (HORIZONTAL SIZE)



RV1506  
V. CENT (VERTICAL CENTER)



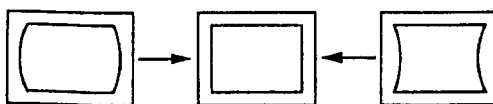
RV1507  
V. SIZE (VERTICAL SIZE)



RV1509  
V. ANGLE (VERTICAL ANGLE)



RV1503  
PIN AMP (PINCUSHION AMPLIFIER)



RV1502  
PIN PHASE (PINCUSHION PHASE)



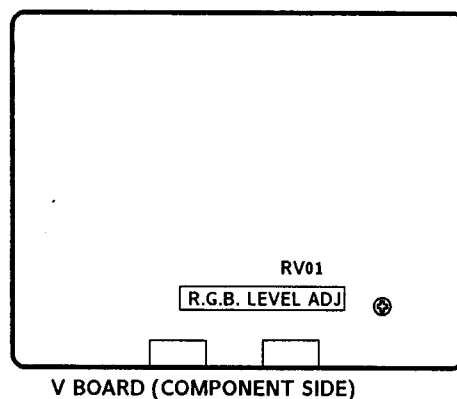
RV1501  
PIN. COR (PINCUSHION CORRECT)



RV1505  
CORNER COR (CORNER CORRECT)



#### 4-5. V BOARD ADJUSTMENT



##### RGB LEVEL ADJUSTMENT (RV01)

1. Maximize the picture setting.
2. Adjust RV01 so that the RGB output is 0.75V.



## 4-6. SECONDARY ADJUSTMENTS

### SUB BRIGHTNESS ADJUSTMENT

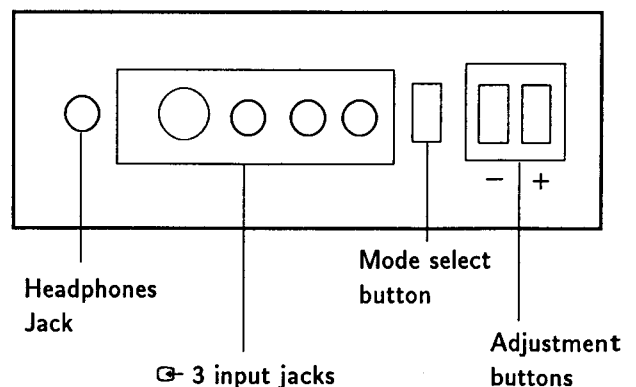
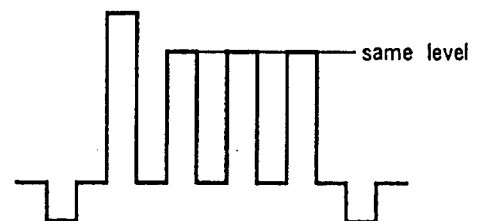
1. Set the system to receive a test pattern.
2. Press  $\rightarrow \cdot \leftarrow$  on the remote commander to put the system into normal mode.
3. Switch off the power.
4. While depressing the adjusting buttons + and - simultaneously, turn on the power. (SUB mode is obtained)
5. Minimize the  $\bullet$  contrast setting.
6. Adjust the  $\odot$  brightness control so that the gray scale 0 IRE section is cut off completely and the 20 IRE section is barely glowing.
7. Depress the  $\diamond$  (store) button of the remote commander. (SUB mode is released)

If there is no test color pattern

1. Set the system to receive a color pattern.
2. Press  $\rightarrow \cdot \leftarrow$  on the remote commander to put the system into normal mode.  
Set the  $\odot$  color to its normal state.
- 3-5. Steps are the same as above.
6. Since 20 IRE is nearly blue, adjust the  $\odot$  brightness control so that the blue barely glows.
7. Same as step 7 above.
8. Press  $\rightarrow \cdot \leftarrow$  on the remote commander to put the system into normal mode.

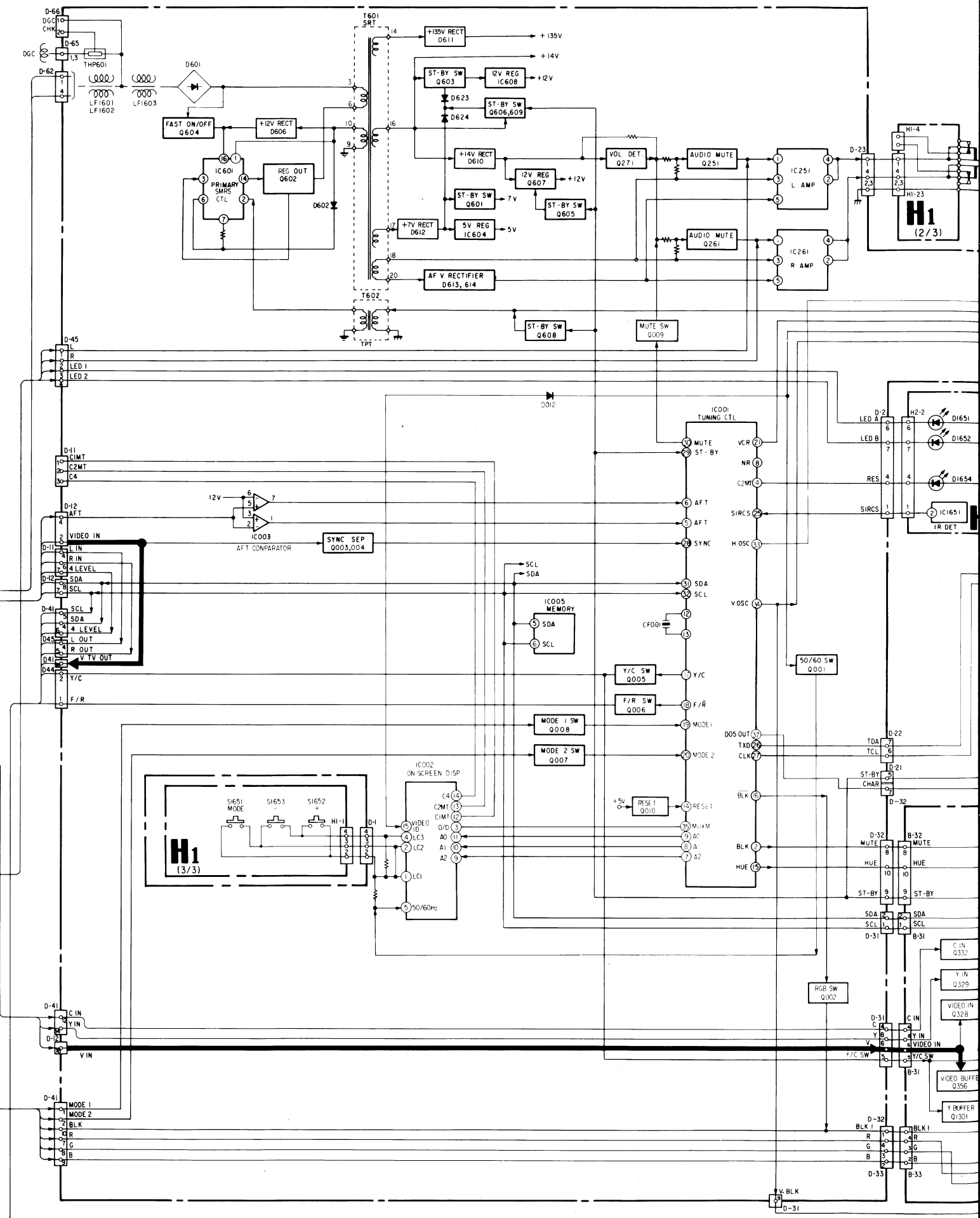
### SUB COLOR ADJUSTMENT

1. Set the system to receive color bars.
2. Press  $\rightarrow \cdot \leftarrow$  on the remote commander to put the system into normal mode.
3. Cut off the power.
4. While depressing the adjustment buttons + and - simultaneously, turn on the power. (SUB mode is obtained).
5. Adjust the color control so that the B out waveform (pin ⑤ of C board connector CNC72) is as shown in the figure below.
6. Depress the  $\diamond$  (store) button of the remote commander. (SUB mode is released)

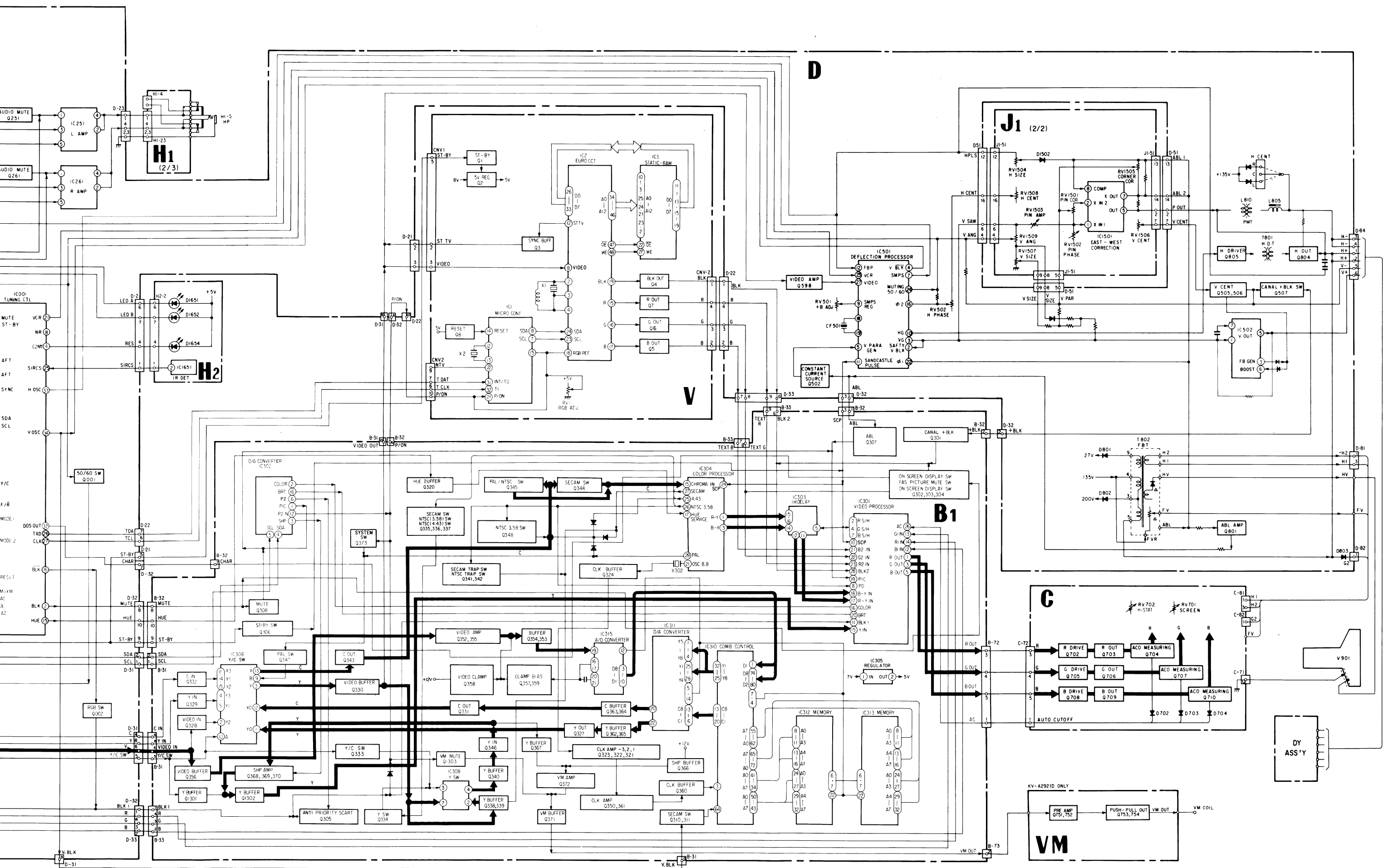




## SECTION 5 DIAGRAMS

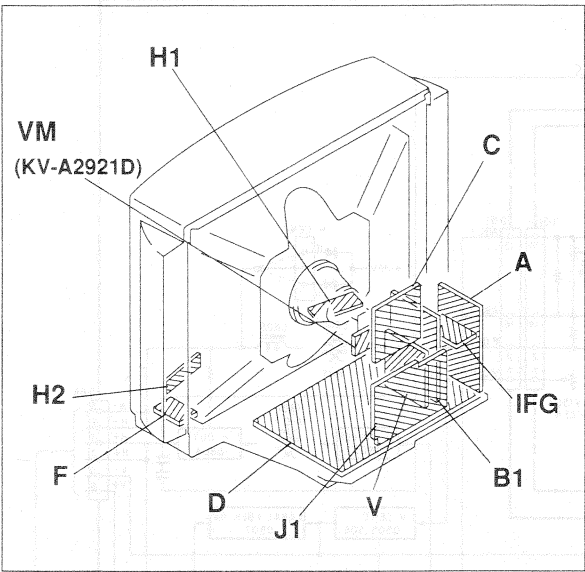








5-2. CIRCUIT BOARDS LOCATION



Reference information		
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: *	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

5-3. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

— Conductor Side —

Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  
 $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms.  
 $\text{k}\Omega = 1000\Omega$ ,  $\text{M}\Omega = 1000\text{k}\Omega$
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm  
Rating electrical power 1/4W

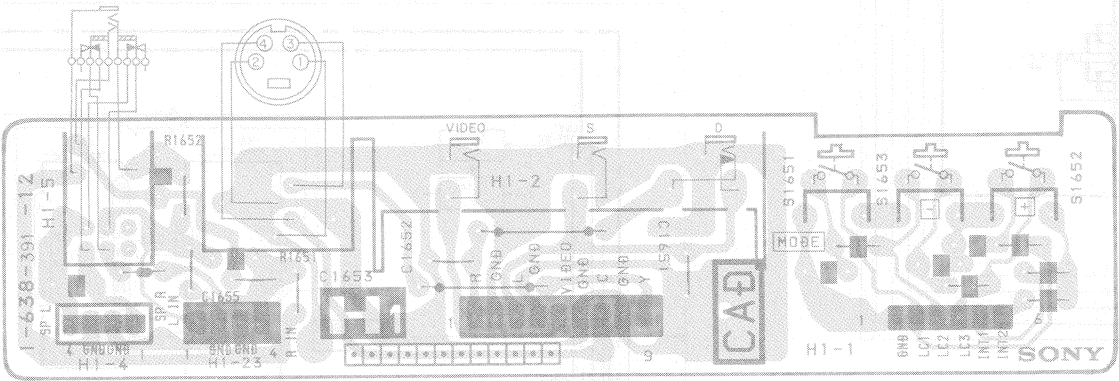
- METAL FILM (:RN) resistors in 1%, 1/6W unless otherwise specified.
- : nonflammable resistor.
- : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-ground.
- : earth-chassis.
- All voltages are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10-M $\Omega$  digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerance.
- : B+ bus.
- : signal path. (RF)
- Circled numbers are waveform references.

Note:

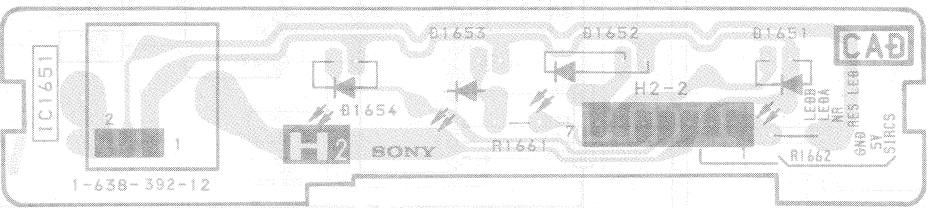
The components identified by shading and mark are critical for safety. Replace only with part number specified.

**H1** CONTROL SW, AV INPUT, HEADPHONE    **H2** SIRCS RECEIVER, INDICATOR    **F** [AC IN, POWER SW]

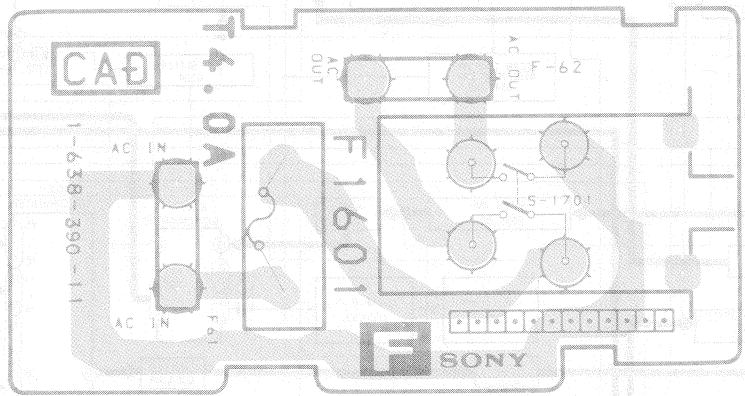
— H1 Board —



— H2 Board —

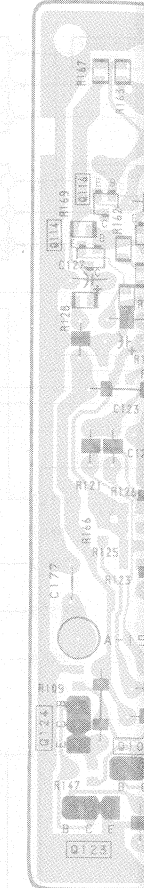


— F Board —

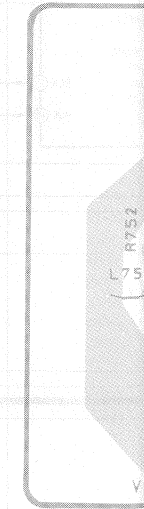


**A** [TUNER]

— A Board



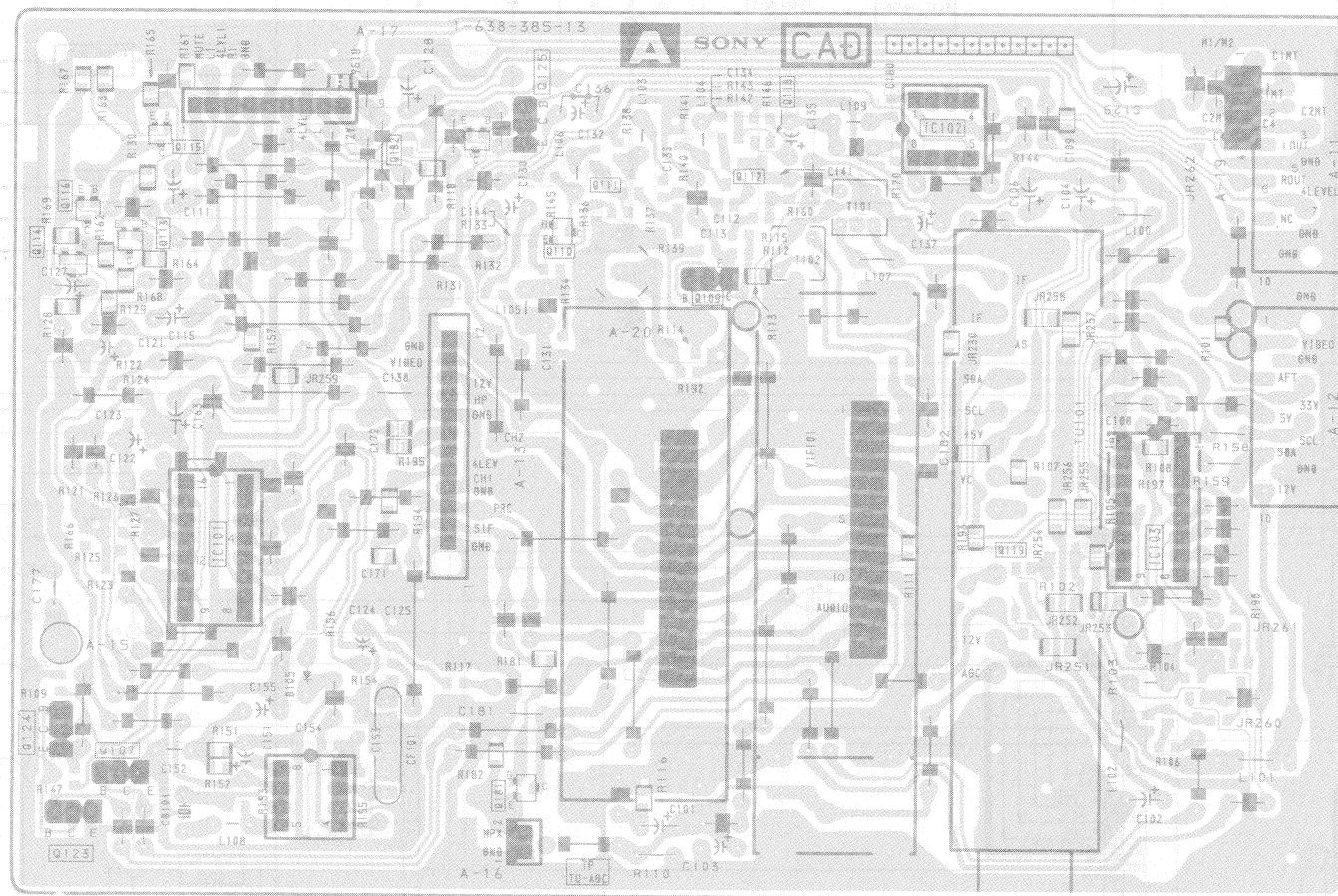
— VM Board



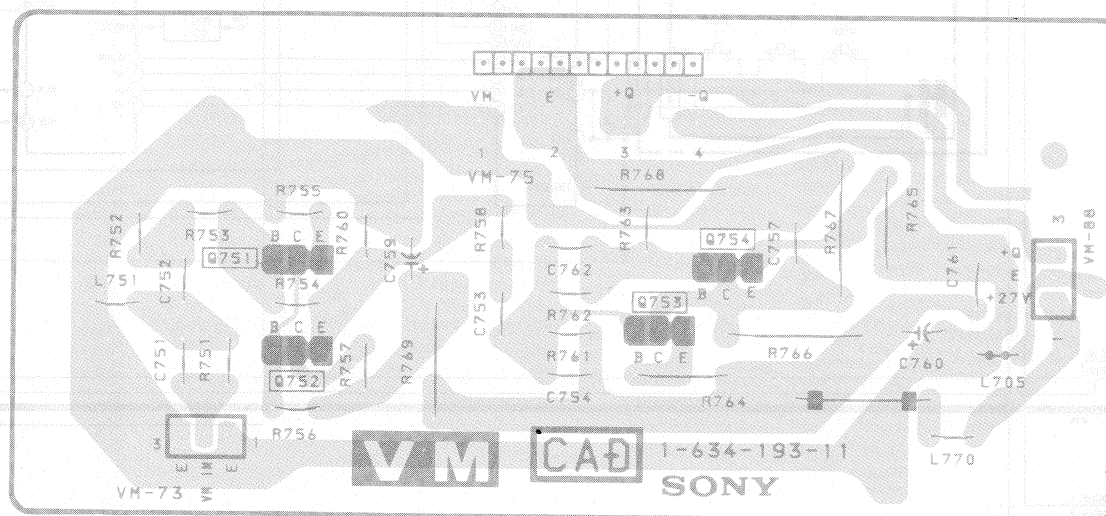


**A** [TUNER, SIF, VIF] **VM** [VM AMP]

— A Board —

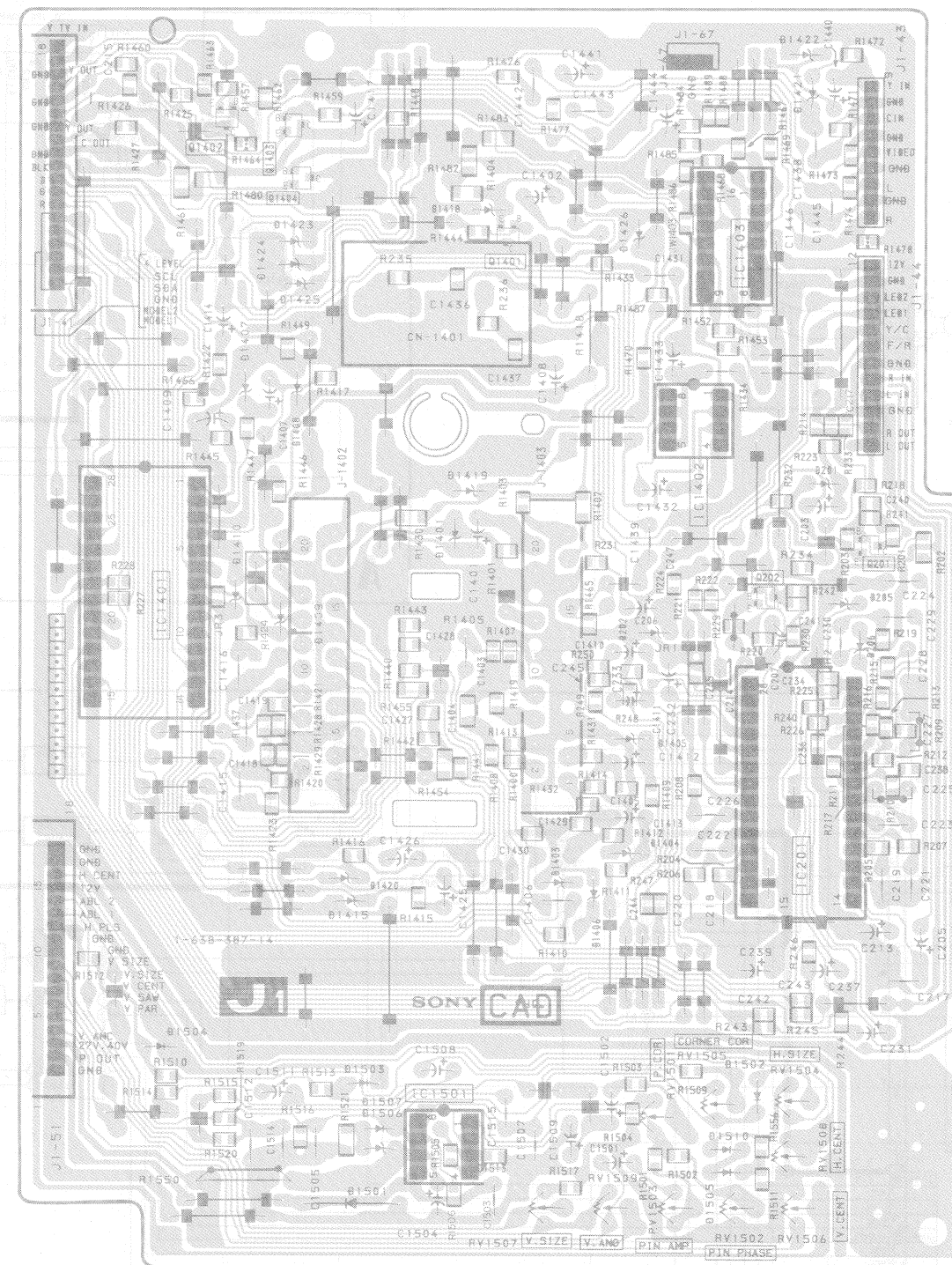


— VM Board — (KV-A2921D ONLY)



**J1** [AUDIO CONTROL, AV INPUT  
Y/C INPUT, SCART VIDEO OUT,  
EAST-WEST CORRECTION]

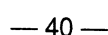
— J1 Board —



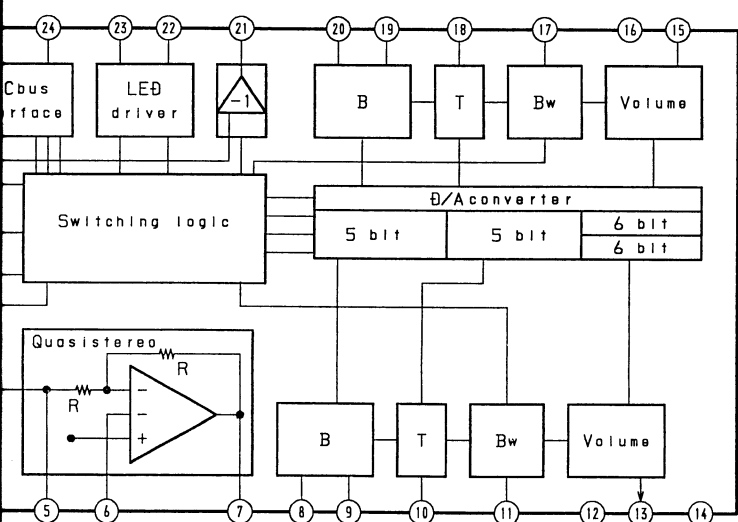




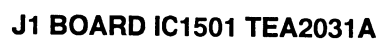




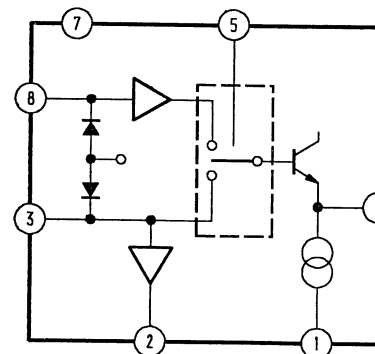
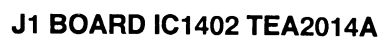
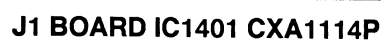




**J1 BOARD IC1403 MC14053BCP**


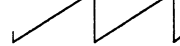

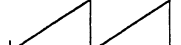


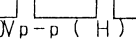
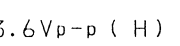
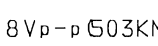
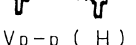
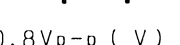
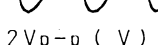
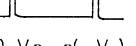

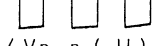


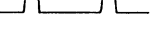




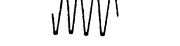


— J1 Board —





	KV-A2121B	KV-A2521B	KV-A2921B
C519	0.47	0.47	0.33
C526	27P	27P	22P
C536	4.7 16V	10 16V	10 16V
C617	220 25V	100 50V	100 50V
C620	1 63V	0.47 50V	0.47 50V
C811	1 200V	2 200V	2 200V
C815	1 200V	1 200V	0.82 200V
C817	0.0106 1.4KV	0.015 1.4KV	0.017 1.4KV
C821	680P 2KV	680P 2KV	470P 2KV
R525	1K 1/10W	1K 1/10W	—
R531	—	120K 1/10W	120K 1/10W
R532	—	—	—
R533	180 1/10W	0 1/10W	0 1/10W
R535	4.7M 1/4W	2.2M 1/4W	2.2M 1/4W
R545	39K 1/10W	22K 1/10W	22K 1/10W
R547	5.6K 1/10W	3.3K 1/10W	3.3K 1/10W
R548	1.2 1W	1 1W	1 1W
R549	470 2W	390 2W	390 2W
R552	1.2K 1W	—	—
R561	—	—	270K 1/10W
R570	—	—	680 1/10W
R600	—	1 1/4W	1 1/4W
R603	15 3W	12 3W	12 3W
R607	4.7K 1/10W	4.7K 1/10W	5.6K 1/10W
R631	27K 2W	27K 2W	—
R643	0.15 2W	0.12 2W	0.12 2W
R811	100 1W	22 2W	22 2W
R812	75K 1/2W	68K 1/2W	51K 1/2W
R825	1 1W	0.47 1W	0.47 1W
R5503	4.7 1/10W	4.7 1/10W	10 1/10W
R5506	—	—	12K 1/10W
JW202	—	—	5MM
JW203	5MM	5MM	—
JW204	5MM	5MM	—
JW205	—	—	5MM
JW206	5MM	5MM	—
JW207	5MM	5MM	—
JW216	15MM	15MM	—
JW229	10MM	10MM	—
L801	—	—	3.9MH
Ø88	—	—	3P CONNECTOR
Ø271	MTZJ12C	MTZJ13B	MTZJ13B
Ø506	ØA204K	ØA204K	—
Ø509	—	1SS133	1SS133
Ø514	JW (5)	JW (5)	1SS133
Ø515	—	—	1SS133
Ø807	—	ERC06-15S	ERC06-15S
Ø808	ERØ28-Ø8S	ERØ29-Ø8J	ERØ29-Ø8J

①  1.4Vp-p ( H )	②  3.0Vp-p ( V )	③  5.0Vp-p ( V )
④  3.0Vp-p ( V )	⑤  4.4 Vp-p ( H )	⑥  11.0Vp-p ( H )
⑦  15.0Vp-p ( H )	⑧  3.6Vp-p ( H )	⑨  0.8Vp-p (503KHz)
⑩  1.4Vp-p ( H )	⑪  0.8Vp-p ( V )	⑫  2.2Vp-p ( V )
⑬  32.0 Vp-p( V )	⑭  28.0Vp-p( V )	⑮  3.6Vp-p ( H )
⑯  250Vp-p ( H )	⑰  12.0Vp-p( H )	⑱  1400Vp-p( H )
⑲  220Vp-p ( H )	⑳  7.0Vp-p ( V )	㉑  54.0Vp-p ( V )
㉒  1.4Vp-p ( H )	㉓  4.4 Vp-p (12MHz)	

IC001	SØA20560-A012	TUNING CTL
IC002	MC14051BCP	ON SCREEN DISPLAY
IC003	BA4558	AFT COMPARATOR
IC005	SØA2546	MY MEMORY
IC251	TØA2050	AUDIO OUT (L)
IC261	TØA2050	AUDIO OUT (R)
IC501	TEA2028B	DEFLECTION PROCESSOR
IC502	TØA8170	V OUT
IC601	TEA2260	PRIMARY SMRS CTL
IC604	TEA7605	+5V REG
IC608	MC7812CT	+12V REG
Q001	ØTC144EK	50/60Hz SW
Q002	ØTC144EK	BLK SW
Q003	2SA1037K	SYNC SEPARATOR
Q004	2SA1037K	SYNC SEPARATOR
Q005	ØTC144EK	Y/C SW
Q006	ØTC144EK	FRONT/REAR SW
Q007	2SC2412K	MODE 2 SWITCH
Q008	2SC2412K	MODE 1 SWITCH
Q009	2SC2412K	MUTE SW
Q010	2SC2412K	RESET
Q251	2SC2412K	AUDIO MUTE
Q261	2SC2412K	AUDIO MUTE
Q271	2SC2412K	VOLTAGE DETECT
Q502	2SA1037K	CONSTANT CURRENT SOURCE
Q505	2SØ774	V CENT
Q506	2SØ734	V CENT
Q507	2SA1037K	CANAL +BLK
Q598	2SA1037K	VIDEO AMP
Q601	2SØ1357T114EF	STBY SW
Q602	2SØ1548	REG OUT
Q603	2SØ1357T114EF	STBY SW
Q604	2SA1037K	FAST ON/OFF
Q605	2SC2412K	STBY SW
Q606	2SC2412K	STBY SW
Q607	2SØ2096-EF	+12V REG
Q608	2SC2412K	STBY SW
Q609	2SØ789-3	STBY SW
Q801	2SC2412K	ABL AMP
Q804	2SØ1941	H OUT
Q805	2SC2688	H DRIVER

Ø001	MTZJ6.8C	PROTECT
Ø002	MTZJ6.8C	PROTECT
Ø003	1SS133	HUE CTL
Ø005	MTZJ5.6B	PROTECT
Ø006	MTZJ33A	VC VOLTAGE REGULATION
Ø007	MTZJ3.9B	PROTECT RESET
Ø009	MTZJ5.6B	CLIPPING SYNC LEVEL
Ø010	MTZJ6.2B	PROTECT
Ø011	MTZJ6.2B	PROTECT
Ø012	1SS133	PROTECT
Ø013	MTZJ6.8C	PROTECT
Ø271	RD12ES-B2	VOLTAGE DETECT (21 INCH ONLY)
Ø271	MTZJ13B	VOLTAGE DETECT (25/29 INCH ONLY)
Ø272	1SS133	DECOUPING MUTE AUDIO
Ø501	1SS133	SOFT START
Ø504	GPØ8ØPKG23	V PULSE OUT
Ø506	ØA204K	CURRENT REG (21/25 INCH ONLY)
Ø508	1SS133	CANAL +BLK LEVEL
Ø509	1SS133T-77	V LIN (25/29 INCH ONLY)
Ø511	GPØ8ØPKG23	PROTECT
Ø512	GPØ8ØPKG23	PROTECT
Ø513	MTZJ4.7B	PROTECT
Ø514	1SS133T-77	PROTECT (29 INCH ONLY)
Ø515	1SS133T-77	PROTECT (29 INCH ONLY)
Ø601	Ø4SØ60L-F	AC RECT
Ø602	RGP10GPKG23	REF RECT
Ø603	GPØ8ØPKG23	SMPS DRIVE 1
Ø604	GPØ8ØPKG23	SMPS DRIVE 2
Ø605	GPØ8ØPKG23	SMPS DRIVE 3
Ø606	RGP10GPKG23	+12V RECT
Ø607	RGP10GPKG23	REF RECT
Ø608	ERC25-Ø6S	PLUSE CLIPPER
Ø609	MTZJ33A	FAST ON/OFF
Ø610	CTU-12S	+14V RECT
Ø611	ERØ29-Ø8J	+135V RECT
Ø612	CTU-12S	+7V RECT
Ø613	RGP15J-6040G23	AF V RECT-1
Ø614	RGP15J-6040G23	AF V RECT-2
Ø616	MTZJ6.2B	+12V REG
Ø617	1SS133	PROTECT
Ø618	MTZJ5.6B	+12V REF
Ø619	MTZJ33A	FAST ON/OFF-2
Ø620	ØA204K	+12V REF
Ø621	MTZJ33A	FAST ON/OFF-3
Ø622	1SS133	PROTECT
Ø623	1SS133	DECOUPING STBY
Ø624	1SS133	DECOUPING ØTBY
Ø630	MTZJ15A	+12V RECT
Ø801	RGP10GPKG23	+27V RECT
Ø802	RGP10GPKG23	+200V RECT
Ø803	RGPØ2-17PKG23	G2 RECT
Ø804	GPØ8ØPKG23	H CENTER-1
Ø805	GPØ8ØPKG23	H CENTER-2
Ø806	ERC06-15S	H ØAMPER-1
Ø807	ERC06-15S	H ØAMPER-2 (25/29 INCH ONLY)
Ø808	ERØ28-Ø8S	PIN ØAMPER (21 INCH ONLY)
Ø808	ERØ29-Ø8S	PIN ØAMPER (25/29 INCH ONLY)

	KV-A2121B	KV-A2521B	KV-A2921B
V901	A51JXH61X	A59JWC61X	A68JYL61X







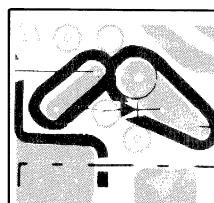




[illegible]

The diagram shows a control system with the following components and connections:

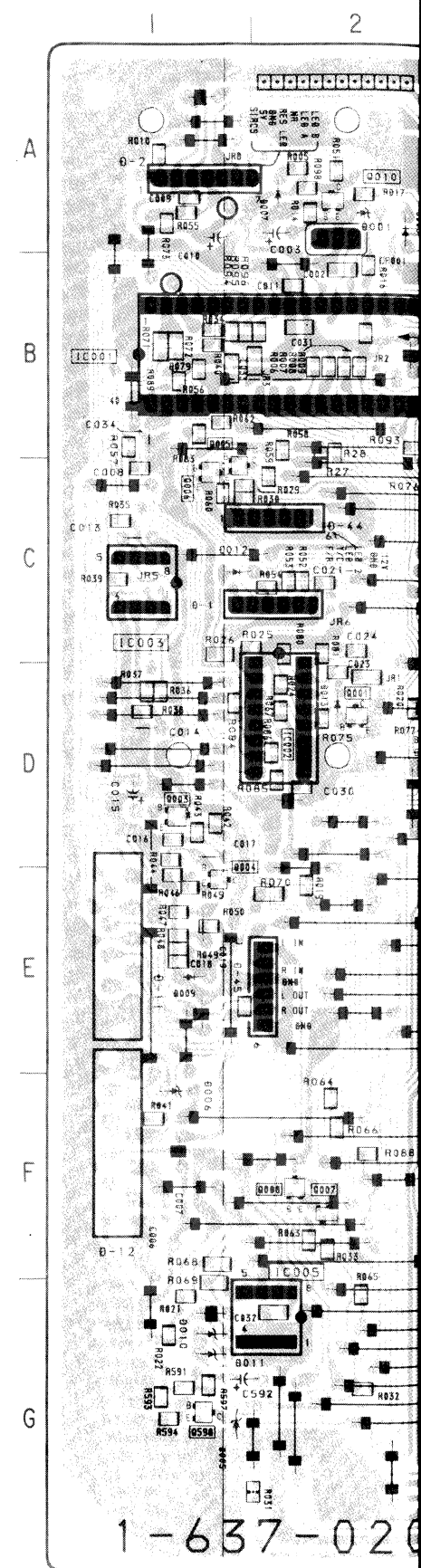
- POWER AMPLIFIER:** A triangular block with an inverting input (-) and a non-inverting input (+).
- REFERENCE VOLTAGE:** A rectangular block that provides a reference signal to the non-inverting input (+) of the power amplifier.
- FLYBACK GENERATOR:** A rectangular block that receives feedback signals from nodes 2 and 3 and provides a control signal to the non-inverting input (+) of the power amplifier.
- THERMAL PROTECTION:** A rectangular block that receives a signal from node 4 and provides a control signal to the non-inverting input (+) of the power amplifier.
- Feedback Loop:** The output of the power amplifier is connected to node 5. From node 5, the signal splits to node 3 (input to the flyback generator) and node 2 (input to the flyback generator and the inverting input (-) of the power amplifier).
- Reference Input:** Node 1 is connected to the inverting input (-) of the power amplifier.
- Other Connections:** Node 6 is connected to the inverting input (-) of the power amplifier. Node 7 is connected to the non-inverting input (+) of the power amplifier. Node 4 is connected to the thermal protection block.



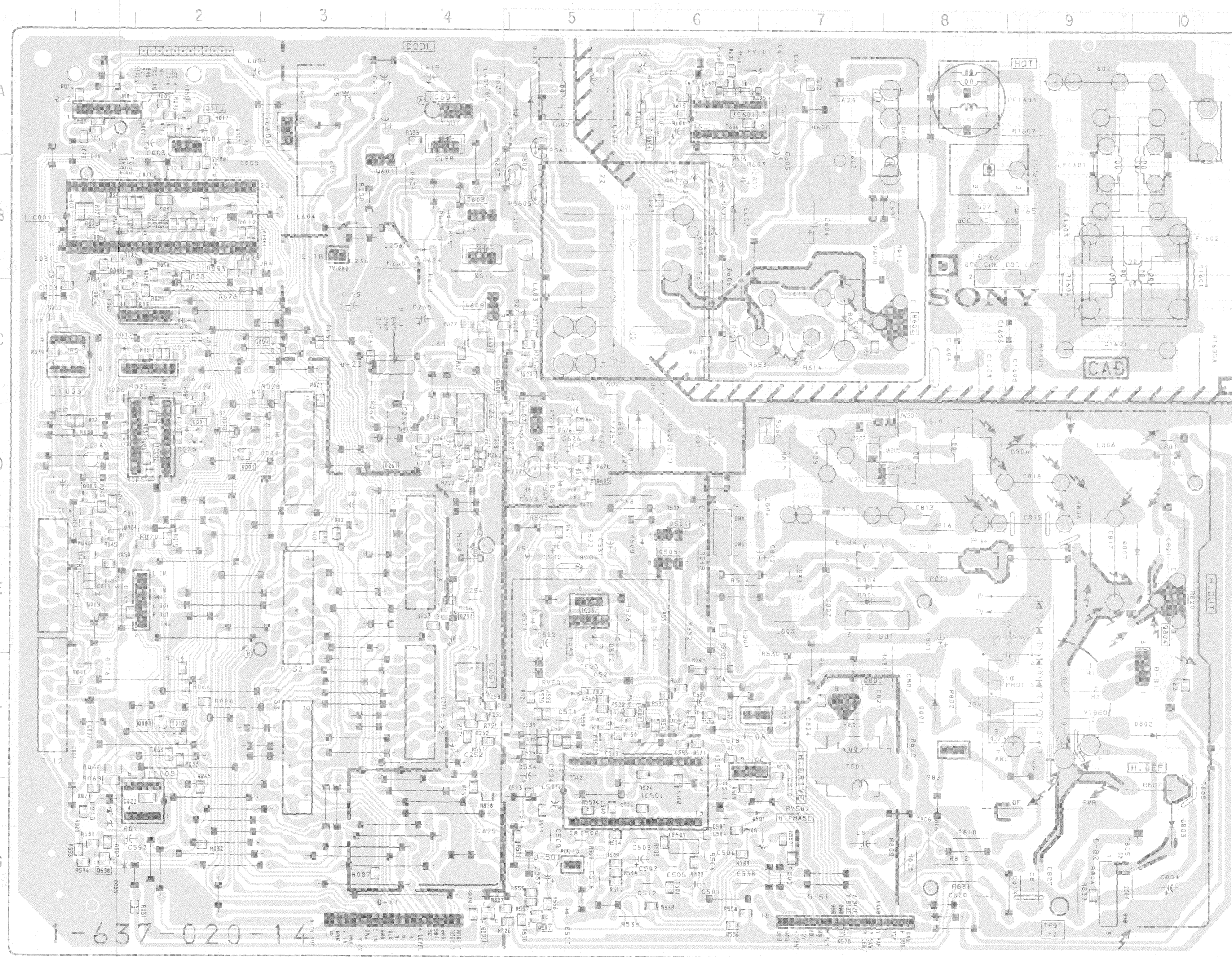
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

[illegible][illegible]

— D Board —



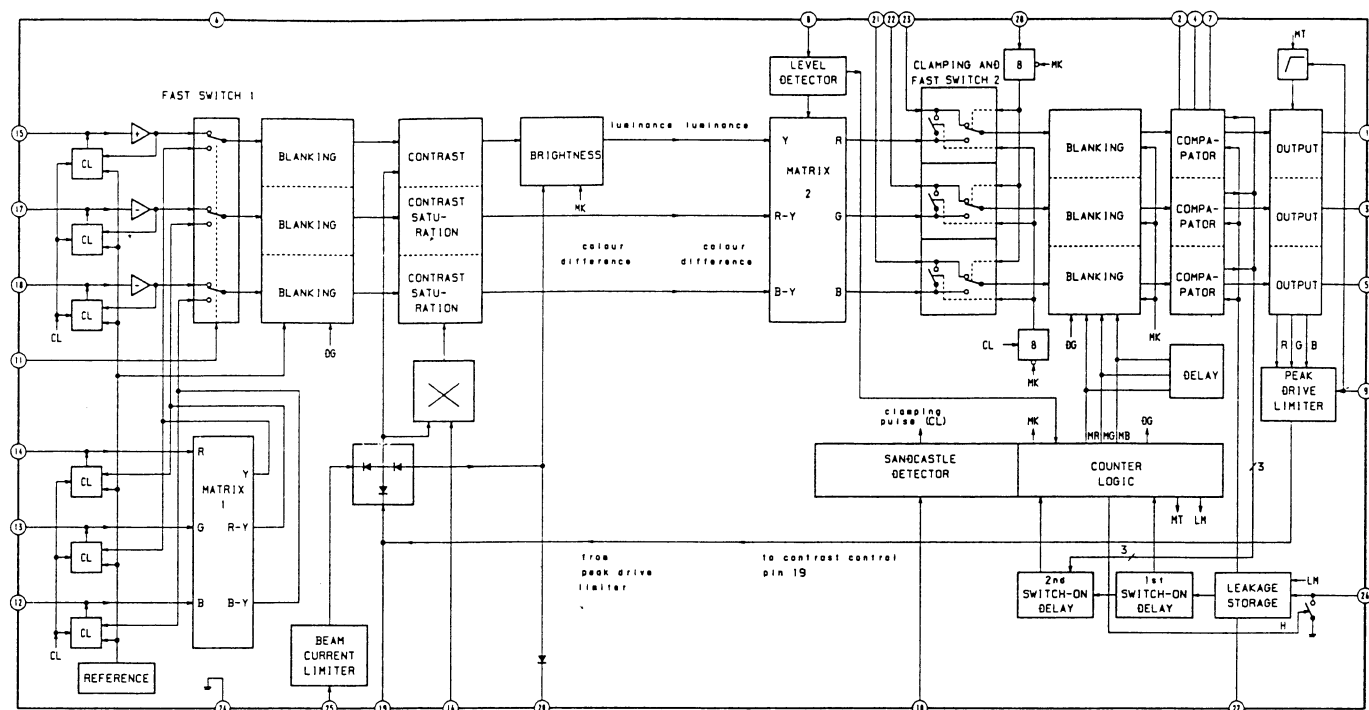




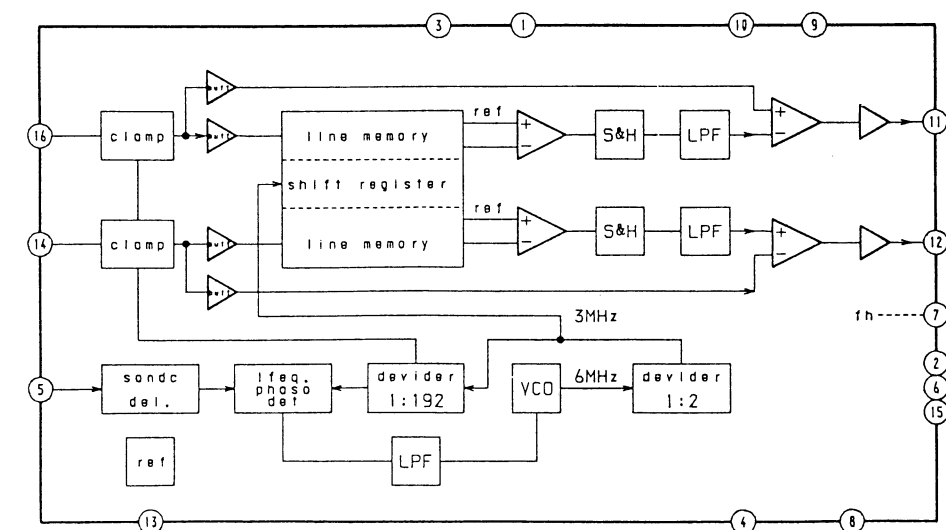
IC		D012	C-1
IC001	B-2	D013	D-2
IC002	D-2	D271	C-5
IC003	C-1	D272	D-5
IC005	G-2	D501	G-7
IC251	F-4	D504	E-5
IC261	D-4	D506	F-5
IC501	G-6	D508	G-5
IC502	E-5	D509	E-6
IC601	A-6	D511	E-6
IC604	A-4	D512	E-5
IC608	A-3	D513	E-5
		D514	E-5
		D515	E-5
		D601	A-8
		D602	C-6
		D603	A-6
		D604	A-5
		D605	B-6
		D606	B-6
		D607	B-6
		D608	C-7
		D609	B-6
		D610	B-4
		D611	D-6
		D612	A-4
		D613	A-5
		D614	A-5
		D616	D-5
		D617	B-6
		D618	D-5
		D619	B-6
		D620	D-5
		D621	B-6
		D622	D-5
		D623	B-4
		D624	B-4
		D630	D-5
		D801	F-8
		D802	F-10
		D803	G-10
		D804	E-7
		D805	E-7
		D806	E-9
		D807	E-10
		D808	D-9
TRANSISTOR		VARIABLE RESISTOR	
Q001	D-2	RV501	F-5
Q002	D-2	RV502	G-7
Q003	D-1	RV601	A-6
Q004	E-1		
Q005	C-1		
Q006	C-1		
Q007	F-2		
Q008	F-2		
Q009	C-3		
Q010	A-2		
Q251	E-4		
Q261	D-4		
Q271	C-5		
Q502	F-2		
Q505	E-6		
Q506	D-6		
Q507	G-5		
Q598	G-1		
Q601	B-3		
Q602	C-8		
Q603	B-4		
Q604	A-6		
Q605	D-5		
Q606	C-4		
Q607	D-5		
Q608	D-4		
Q609	C-4		
Q801	G-4		
Q804	E-10		
Q805	F-7		
DIODE		TP	
D001	A-2	TP91	G-9
D002	D-3		
D003	A-2		
D005	G-1		
D006	F-1		
D007	A-2		
D009	E-1		
D010	G-1		
D011	G-1		



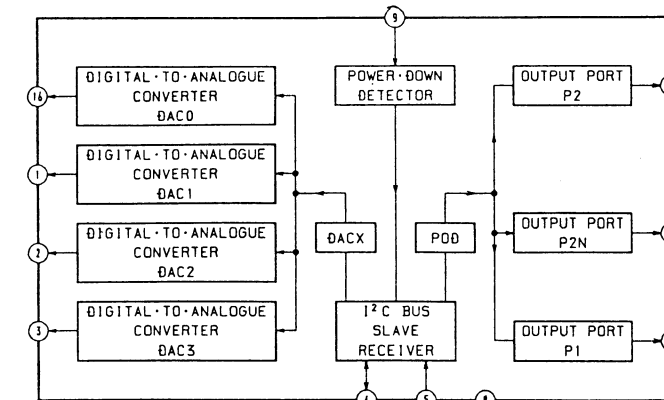
B1 BOARD IC301 TDA4580-V7



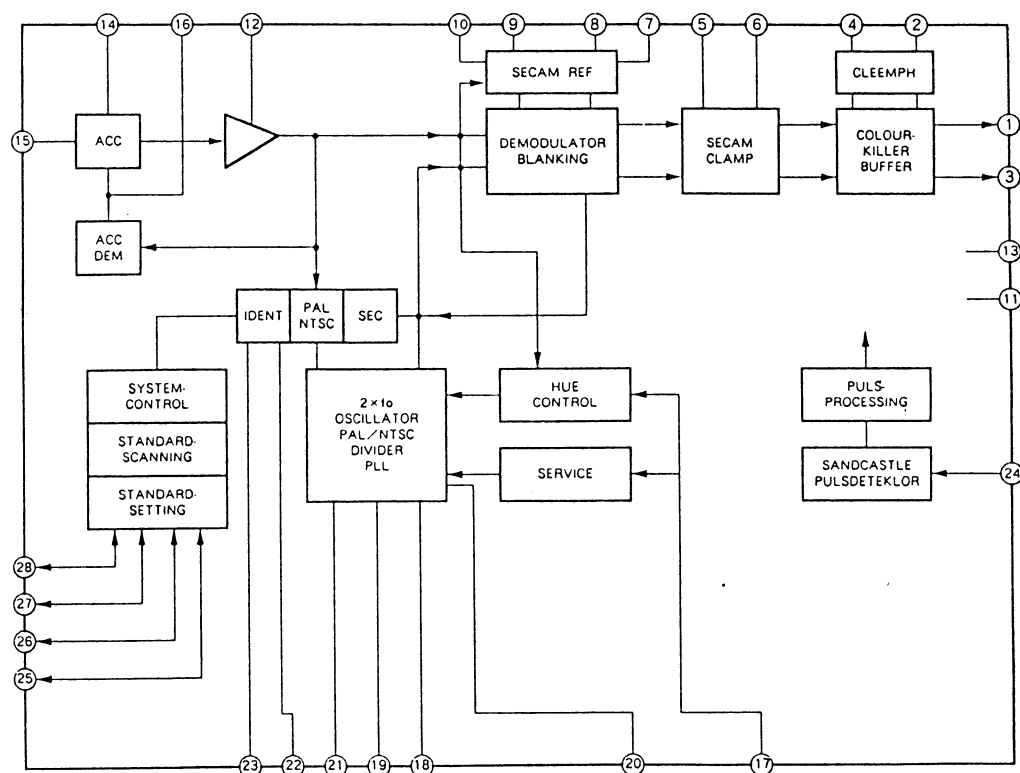
B1 BOARD IC303 TDA4660T



B1 BOARD IC302 TDA8442-N3



B1 BOARD IC304 TDA4650WP

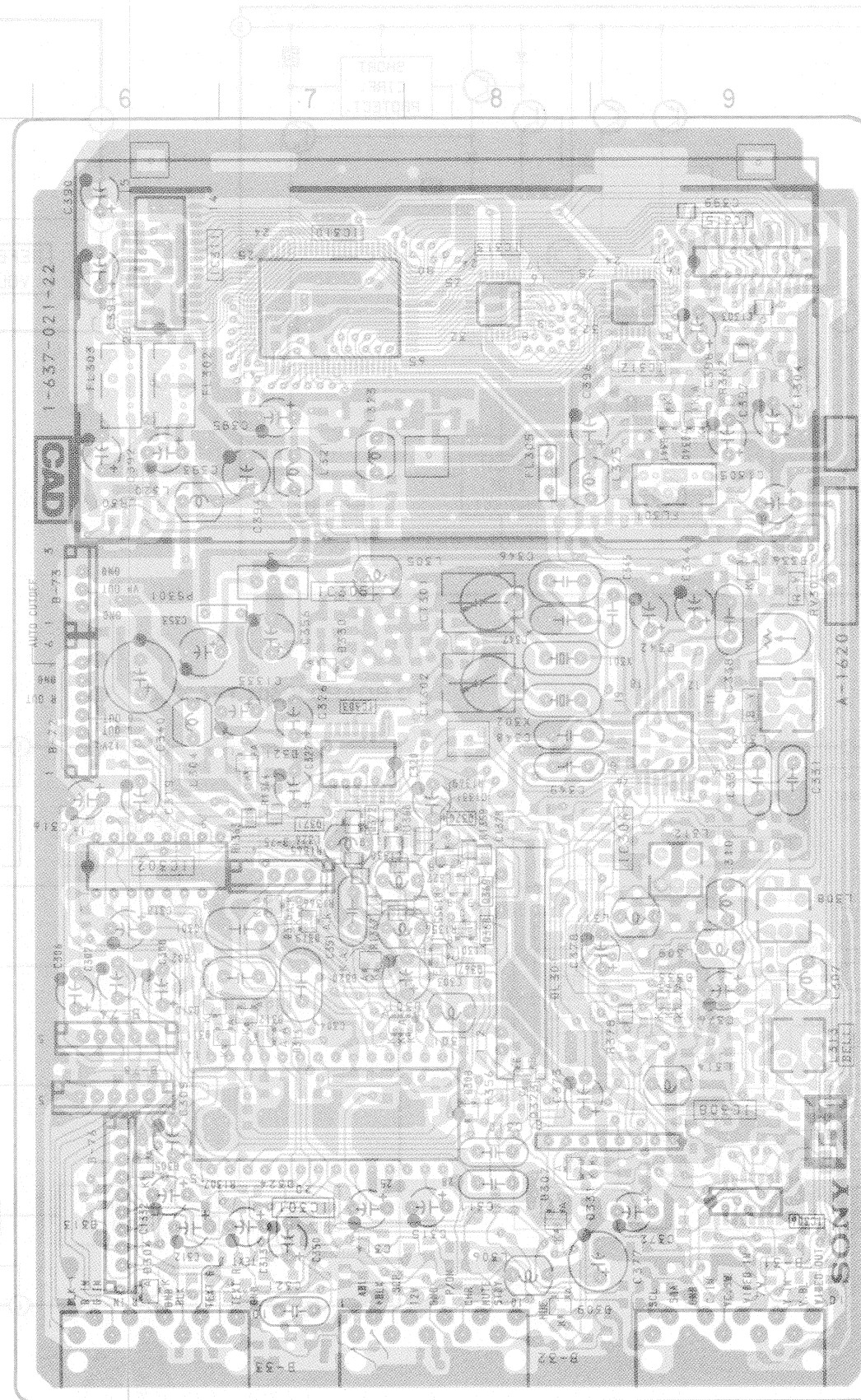
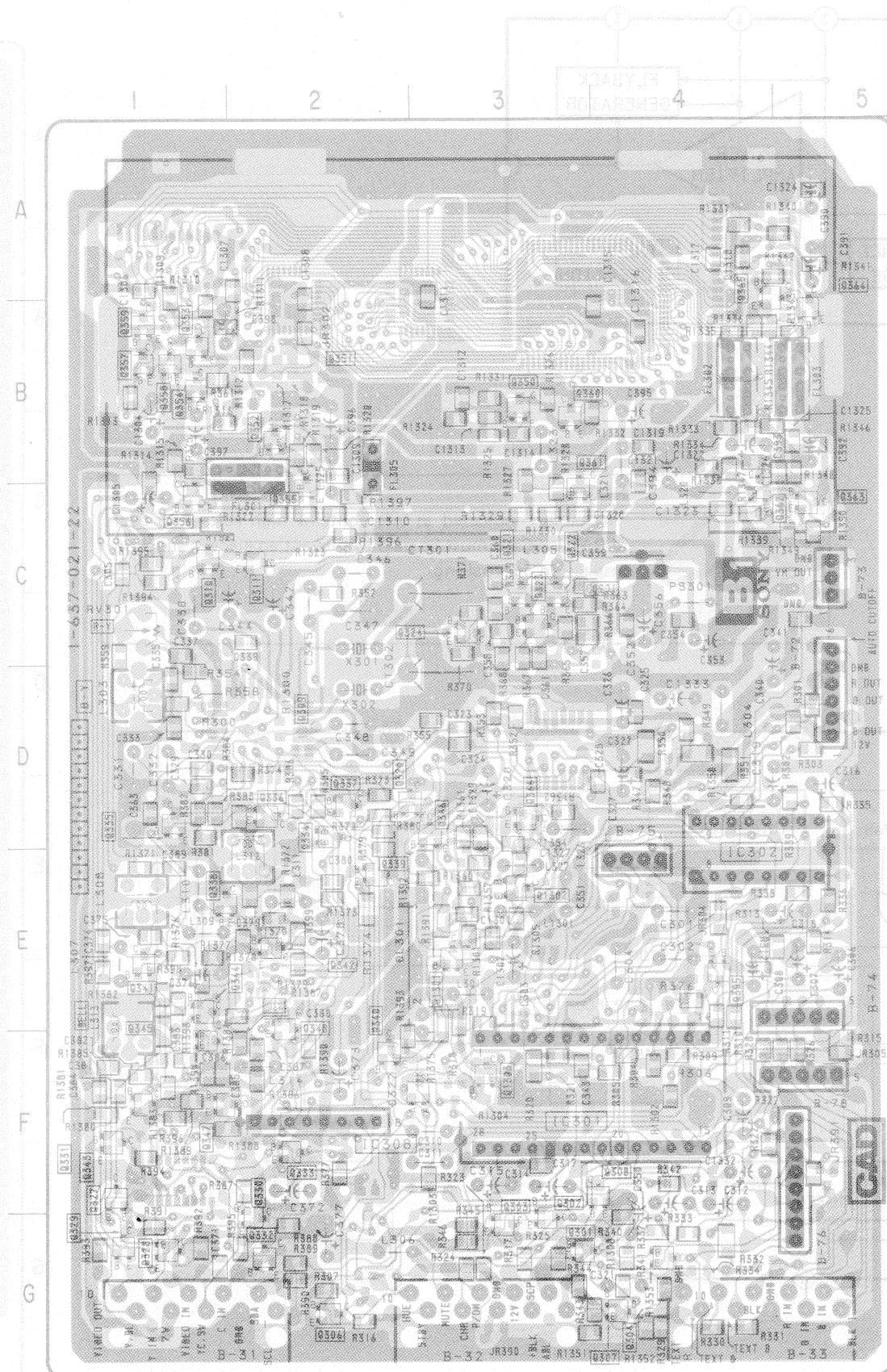




**B1**

VIDEO PROCESSOR, COLOR PROCESSOR  
Y/C SW, D/A CONVERTER, MEMORY  
A/D CONVERTER

— B1 Board —



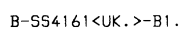
- : pattern from the side which enables seeing.
- : pattern of the rear side.

— B1 Board —

IC			
IC301	E-6	Q360	B-3
IC302	D-5	Q361	B-3
IC303	C-6	Q362	B-4
IC304	C-7	Q363	B-4
IC305	B-6	Q364	A-4
IC306	E-8	Q365	A-4
IC308	E-7	Q366	C-3
IC310	A-6	Q367	D-6
IC311	A-5	Q368	D-6
IC312	A-7	Q369	D-6
IC313	A-6	Q370	D-6
IC315	A-7	Q371	D-6
		Q372	D-6
		Q373	E-6
		Q1301	D-2
		Q1302	D-3
		Q1303	E-2
TRANSISTOR		DIODE	
Q301	E-3	D301	D-6
Q302	E-3	D304	E-5
Q303	E-3	D305	E-5
Q304	F-3	D307	E-7
Q305	D-4	D308	E-6
Q306	F-2	D309	F-7
Q307	F-3	D310	D-5
Q308	E-3	D311	D-5
Q310	C-1	D312	D-5
Q311	C-1	D314	D-6
Q320	C-2	D318	D-6
Q321	B-2	D319	D-6
Q322	B-3	D320	D-6
Q323	C-3	D321	C-6
Q324	C-2	D322	E-2
Q327	E-1	D330	C-6
Q328	E-1	D331	E-7
Q329	E-1	D333	D-7
Q330	E-1	D336	B-8
Q331	E-1	D340	B-7
Q332	E-1	D341	B-7
Q333	E-2		
Q334	D-2		
Q335	D-1		
Q336	C-1		
Q337	C-2		
Q338	D-1		
Q339	D-2		
Q340	D-2		
Q341	D-1		
Q342	D-2		
Q343	E-1		
Q344	D-1		
Q345	D-1		
Q346	D-2		
Q347	E-1		
Q348	D-2		
Q350	B-3		
Q352	B-1		
Q353	A-1		
Q354	B-1		
Q355	B-2		
Q356	C-1		
Q357	B-1		
Q358	B-1		
Q359	B-1		



Q354	25C2412K	BUFFER
Q355	25C2412K	VIDEO AMP
Q356	25A1037K	VIDEO BUFFER
Q357	25A1037K	CLAMP BIAS
Q358	25C2412K	VIDEO CLAMP
Q359	25A1037K	CLAMP BIAS
Q360	25C2412K	CLK BUFFER
Q361	25C2412K	CLK AMP
Q362	25C2412K	Y BUFFER
Q363	25C2412K	C BUFFER
Q364	25A1037K	C BUFFER
Q365	25A1037K	Y BUFFER
Q366	25C2412K	SHP BUFFER
Q367	25C2412K	Y BUFFER
Q368	25C2412K	SHP AMP
Q369	25C2412K	SHP AMP
Q370	25C2412K	SHP AMP
Q371	25C2412K	VM BUFFER
Q372	25C2412K	VM AMP
Q373	0TC124EK	
Q1301	0TC124EK	Y BUFFER
Q1302	25C2412K	Y BUFFER
Q1303	0TC124EK	VM MUTE
Q301	1MN10	ACD AT ATBY
Q304	0AN212K	PROTECT
Q305	0AN212K	PROTECT
Q307	MA3110M	PROTECT
Q308	0AN212K	PROTECT
Q309	0AN212K	PROTECT
Q310	MA3110M	PROTECT
Q311	MA3110M	PROTECT
Q312	MA3110M	PROTECT
Q314	0A204K	PROTECT
Q318	0A204K	PROTECT
Q319	0A204K	PROTECT
Q320	0A204K	PROTECT
Q321	MA3056	REG
Q322	0AN202K	PROTECT
Q330	0AN212K	BIAS
Q331	0AP202K	Y/C SW
Q333	1MN10	SYSTEM SW
Q336	0AN202K	CORRECT SW
Q340	0A204K	VIDEO AMP
Q341	0AN212K	VIDEO AMP











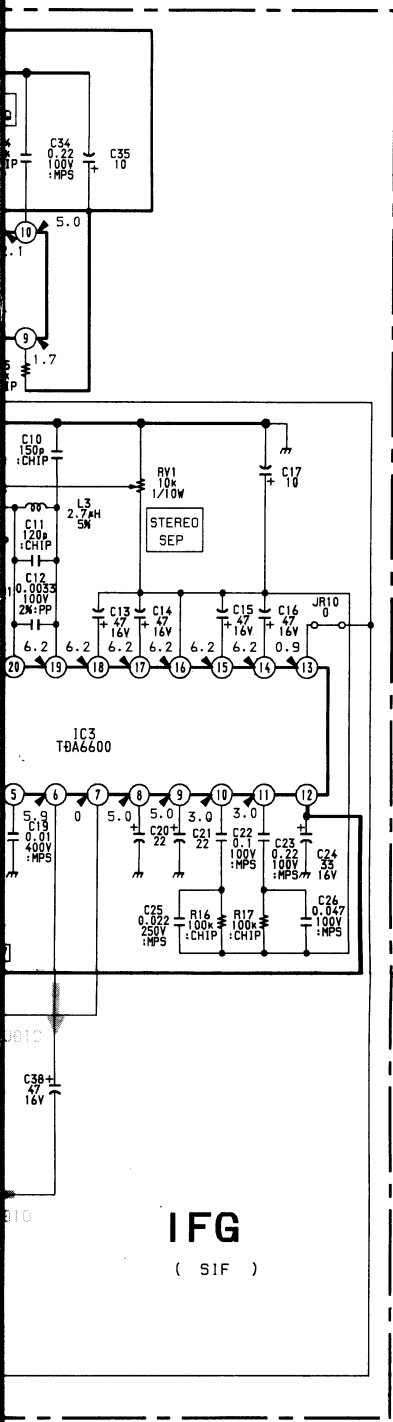




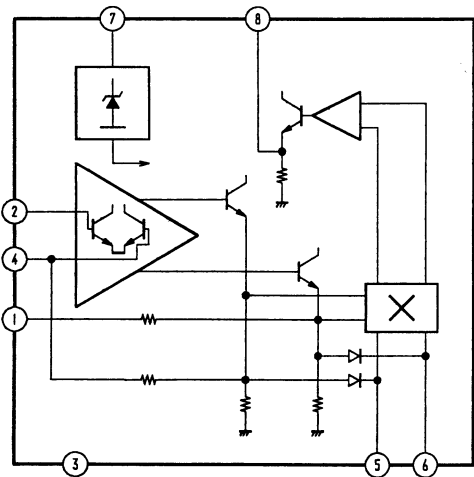




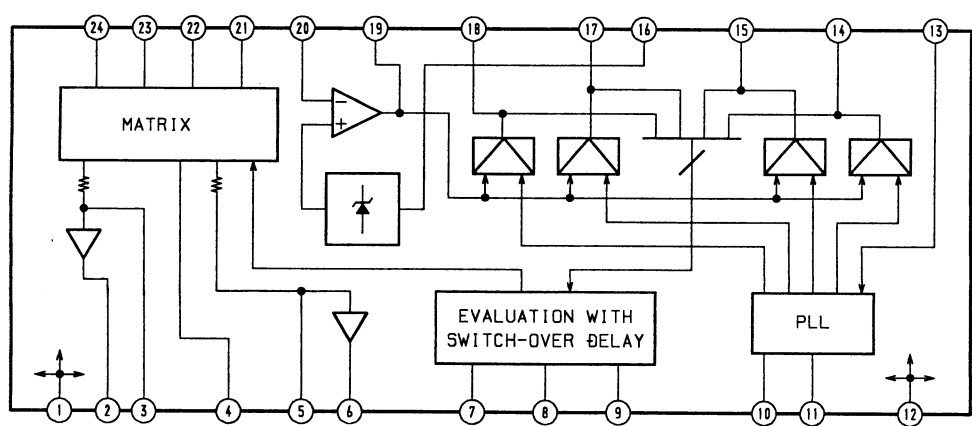




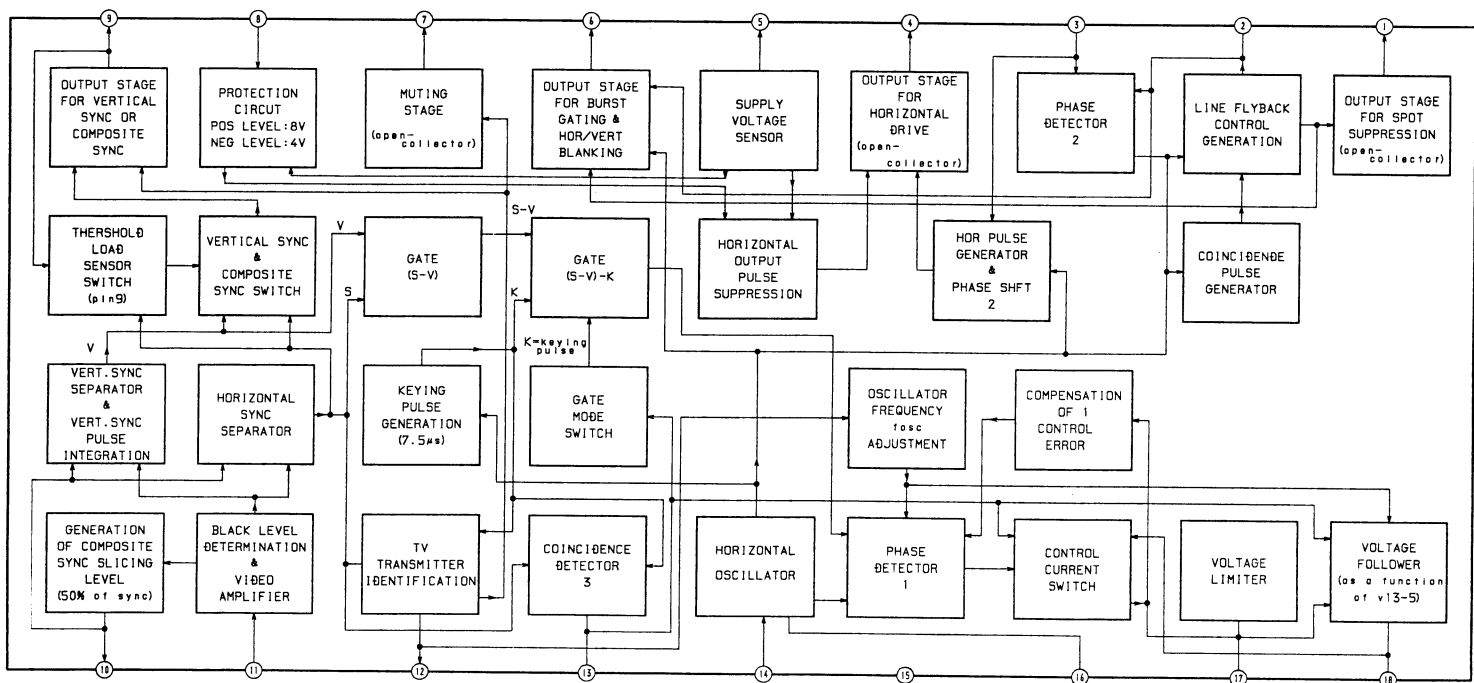
IFG BOARD IC1/IC2 TBA129



IFG BOARD IC3 TDA6600

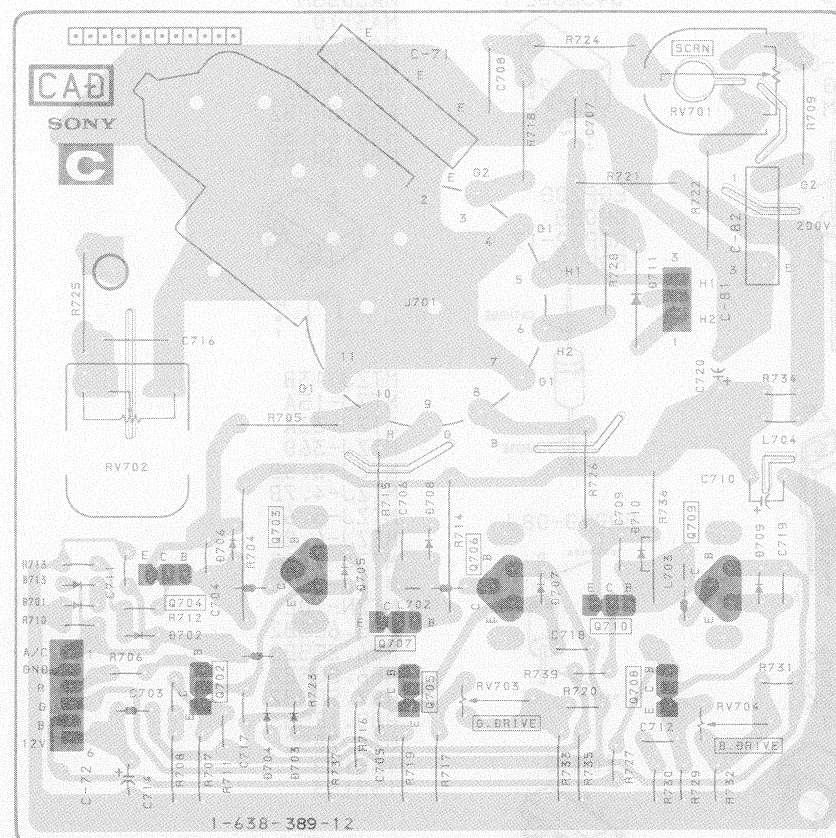


IFG BOARD IC4 TDA2595

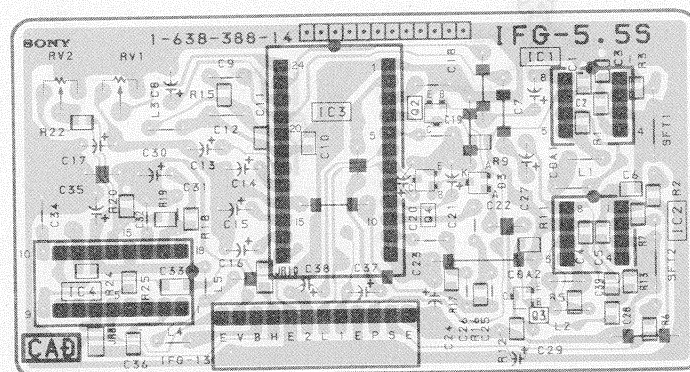




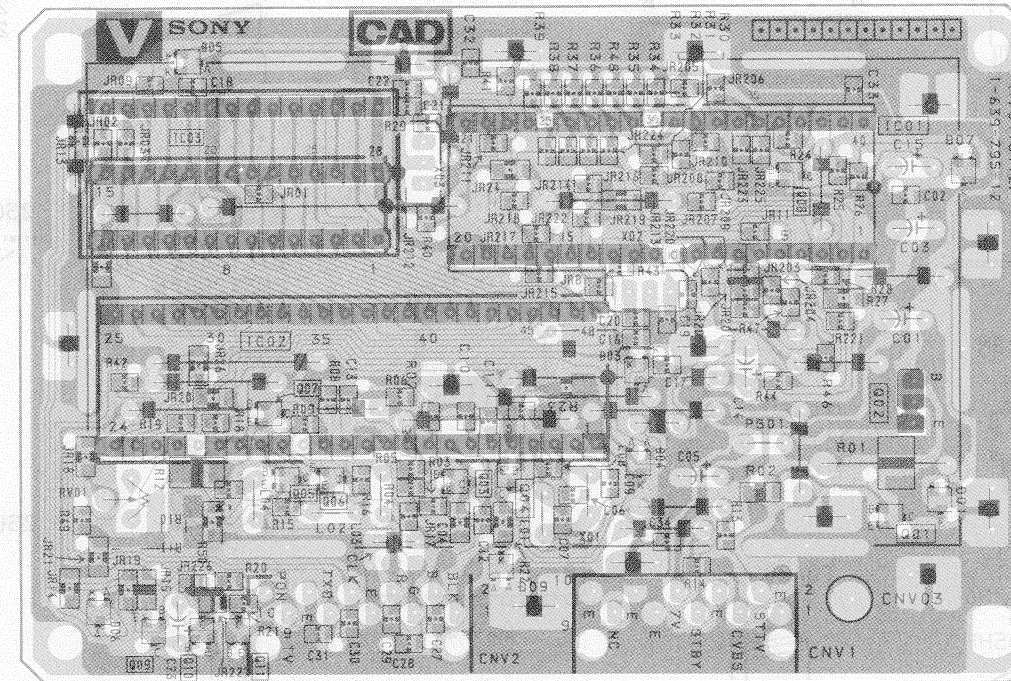
— C Board —



— IFG Board —



**V** [TELE TEXT]

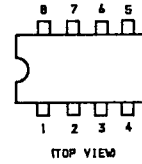


- : pattern from the side which enables seeing.
- : pattern of the rear side.

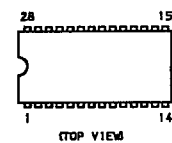


## 5-4. SEMICONDUCTORS

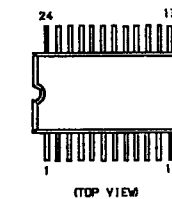
BA4558  
NE5532P  
RC4558P  
SBA2546  
TBA129  
TDA1543  
TEA2014A  
TEA2031A



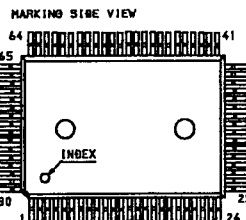
CXA1114P  
CXK5864BP-10L  
MAB8461P-W208  
SAA5246P/E  
SAA7280  
TC5565APL-15L  
TDA4580-V7  
TDA6200  
TEA2028B



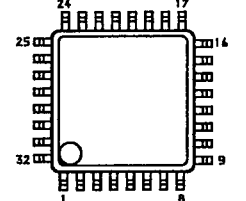
CXD1175AM



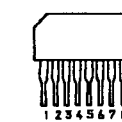
CXD2011Q



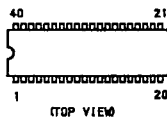
CXK1202Q



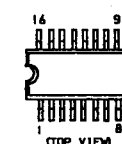
CX20061



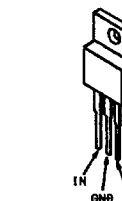
FCB61C65L-70P  
SBA20560-A012



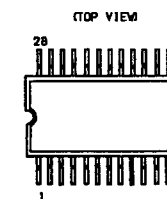
HCF4052BM



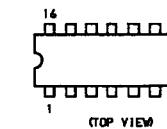
LM7812CT  
MC7812CT  
TDA8341/N6  
TEA7605  
μPC24M05HF



MB40968PF



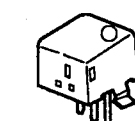
MC14051BCP  
MC14053BCP  
PC8574  
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TDA4660T  
TDA8442N3  
TEA2260  
μP04053BC



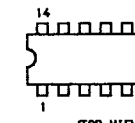
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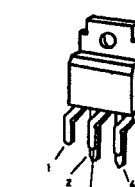
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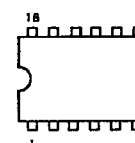
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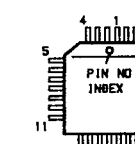
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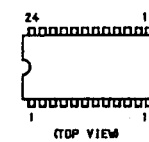
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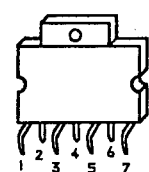
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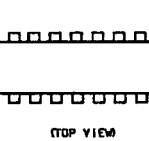
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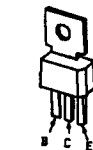
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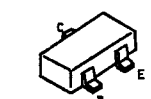
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BF871



DTA144EK  
DTC114EK  
DTC124EK  
DTC144EK  
MMST2907A  
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2SA812  
2SB1295  
2SC1623  
2SC2412  
2SC2712



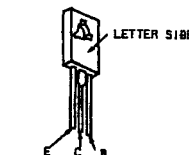
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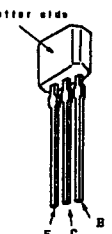
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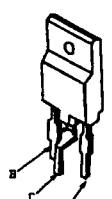
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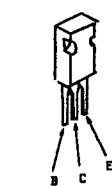
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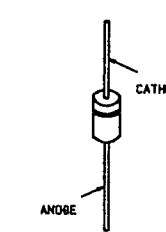
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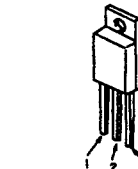
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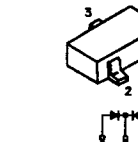
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BB809  
ERC06-15S  
ERC25-06S  
RGP10G  
RU-3AM



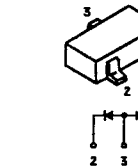
CTU-125



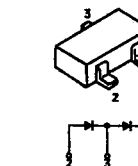
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DAN212K  
MA152WK  
1S2837



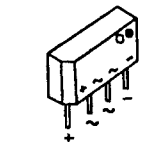
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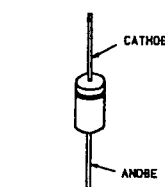
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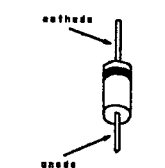
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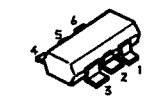
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GP080  
RGP02-17  
RGP15J



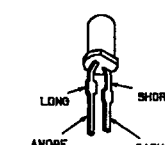
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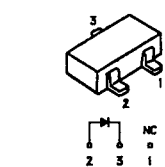
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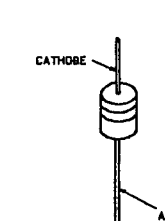
LD-201VR



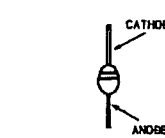
MA3056M  
MA3110  
MA3036H  
MA3068M  
R011M-B2  
R03.6M-B2  
R05.6M-B2  
R06.8M-B2



MTZJ-13B  
MTZJ-15A  
MTZJ-33A  
MTZJ-360  
MTZJ-3.9B  
MTZJ-4.7B  
MTZJ-5.6B  
MTZJ-6.2C  
MTZJ-7.5C  
MTZJ-9.1C  
MTZN-10C  
R05.6ESB2  
R06.2ESB2  
R06.8ESB2  
R07.5ESB2  
R09.1ESB3  
UZ4.7BSC  
1SS119  
1SS133



U05G





## SECTION 6

### EXPLODED VIEWS

#### NOTE:

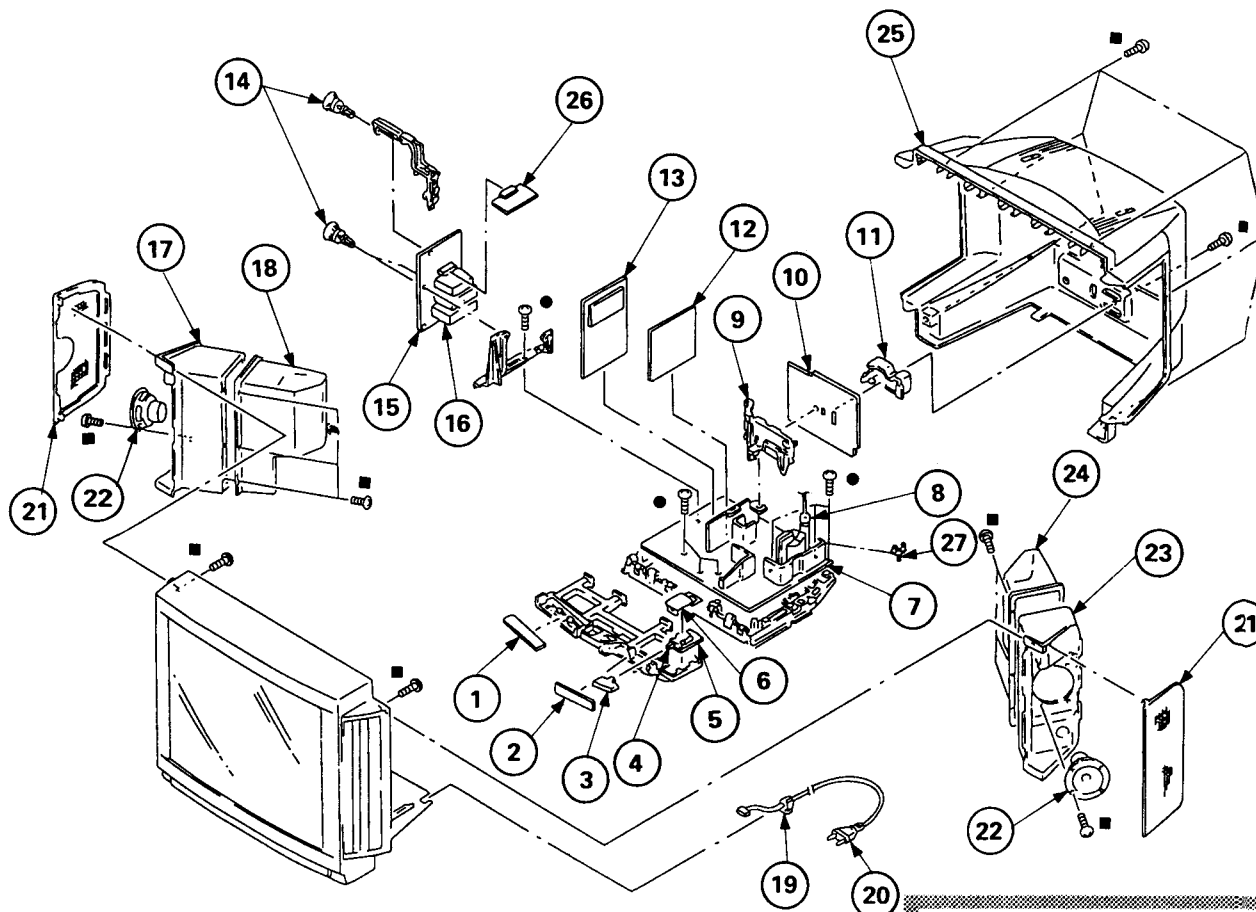
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark are critical for safety. Replace only with part number specified.

#### 6-1. CHASSIS (KV-A2121D)

● : BVTP3x12 7-685-648-79

■ : BVTP4x16 7-685-663-79



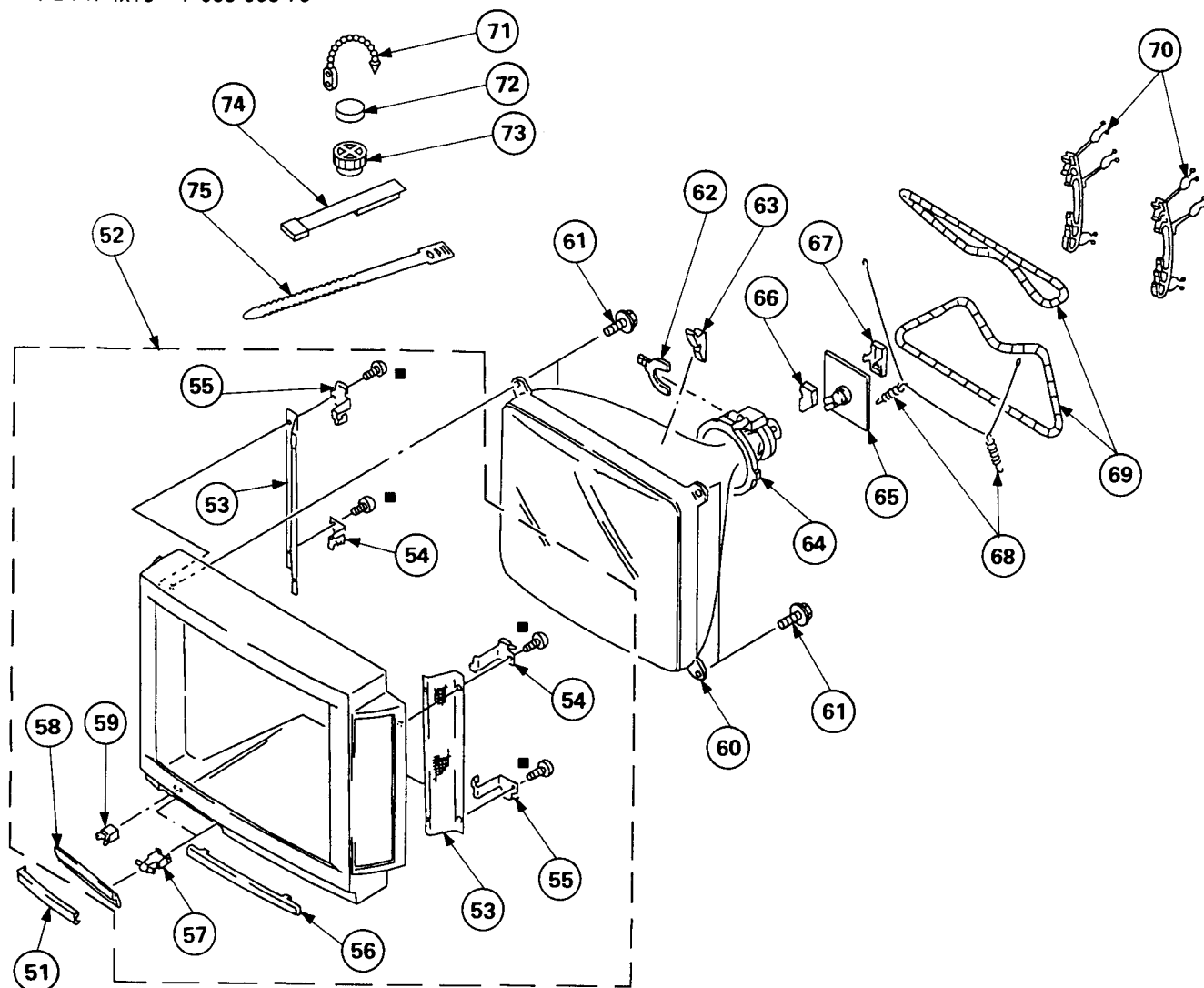
The components identified by shading and mark are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*1-638-391-11	H1 BOARD		15	*A-1632-022-A	A BOARD, COMPLETE	
2	*1-638-392-11	H2 BOARD		16	1-465-301-11	TUNER, ET (UV-816(PLL))	
3	4-031-044-01	BUTTON, POWER		17	*4-031-056-01	BOARD (LEFT), BAFFLE	
4	1-571-433-12	SWITCH, PUSH (AC POWER)		18	*4-031-057-01	BOX (LEFT), SPEAKER	
5	*1-638-390-11	F BOARD		19	4-389-201-03	HOLDER, AC CORD	
6	4-200-757-01	COVER, POWER SWITCH		20	1-590-501-11	CORD, POWER (WITH NOISE FILTER)	
7	*A-1642-035-A	D BOARD, COMPLETE		21	X-4029-448-1	GRILLE ASSY, SPEAKER	
8	1-439-416-51	TRANSFORMER ASSY, FLYBACK (UX-1650)		22	1-544-475-11	SPEAKER	
9	*4-386-624-11	BRACKET, J		23	*4-031-054-01	BOARD (RIGHT), BAFFLE	
10	*A-1651-018-A	J1 BOARD, COMPLETE		24	*4-031-055-01	BOX (RIGHT), SPEAKER	
11	4-200-014-01	BRACKET, TERMINAL		25	4-031-059-01	COVER, REAR	
12	*A-1645-013-A	V BOARD, COMPLETE		26	*A-1654-004-A	IFG BOARD, COMPLETE	
13	*A-1621-042-A	B1 BOARD, COMPLETE		27	*3-646-071-00	HOLDER, WIRE	
14	4-386-618-01	RIVET, T TYPE					



## 6-2. PICTURE TUBE (KV-A2121D)

■ : BVTP4x16 7-685-663-79



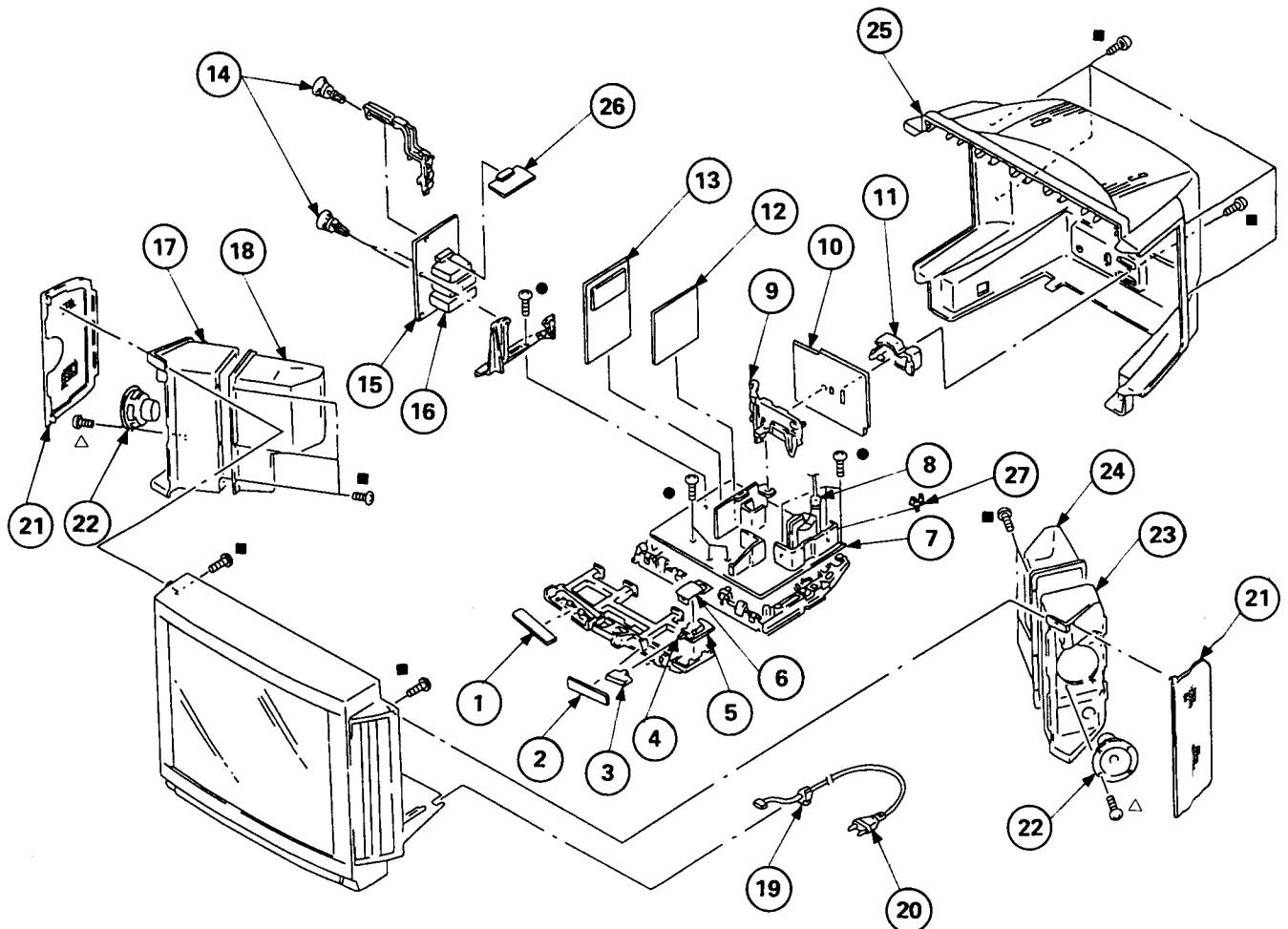
The components identified by shading and mark ▲ are critical for safety.  
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
51	4-031-050-01	ORNAMENT, DOOR		64	▲.1-451-295-11	DEFLECTION YOKE (Y21PFA2)	
52	X-4029-432-1	CABINET ASSY (WITH BEZEL ASSY)	53~59	65	*A-1638-014-A	C BOARD, COMPLETE	
53	4-031-047-01	GRILLE, FRONT		66	*4-379-167-01	COVER (MAIN), CV	
54	4-031-045-01	BRACKET (A), SPEAKER		67	*4-379-160-01	COVER (REAR LID), CV	
55	4-031-046-01	BRACKET (B), SPEAKER		68	4-200-433-01	SPRING, EXTENSION	
56	4-031-051-01	WINDOW, ORNAMENTAL		69	▲.1-426-383-11	COIL, DEMAGNETIZATION	
57	3-703-035-11	SHAFT, LID		70	*4-386-622-01	BAND, DGC	
58	4-031-049-01	DOOR		71	4-308-870-00	CLIP, LEAD WIRE	
59	4-392-036-01	CATCHER, PUSH		72	1-452-032-00	MAGNET, DISK; 10MM φ	
60	▲.8-738-758-05	PICTURE TUBE (A51JXH61X)		73	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM φ	
61	4-036-189-01	SCREW (S), PT		74	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
62	1-452-277-00	MAGNET, BMC		75	3-701-007-00	BAND, BINDING	
63	3-704-495-01	SPACER, DY					



### 6-3. CHASSIS (KV-A2521D/A2921D)

- : BVTP3x12 7-685-648-79
- : BVTP4x16 7-685-663-79
- △ : BVTP4x12 7-685-661-79



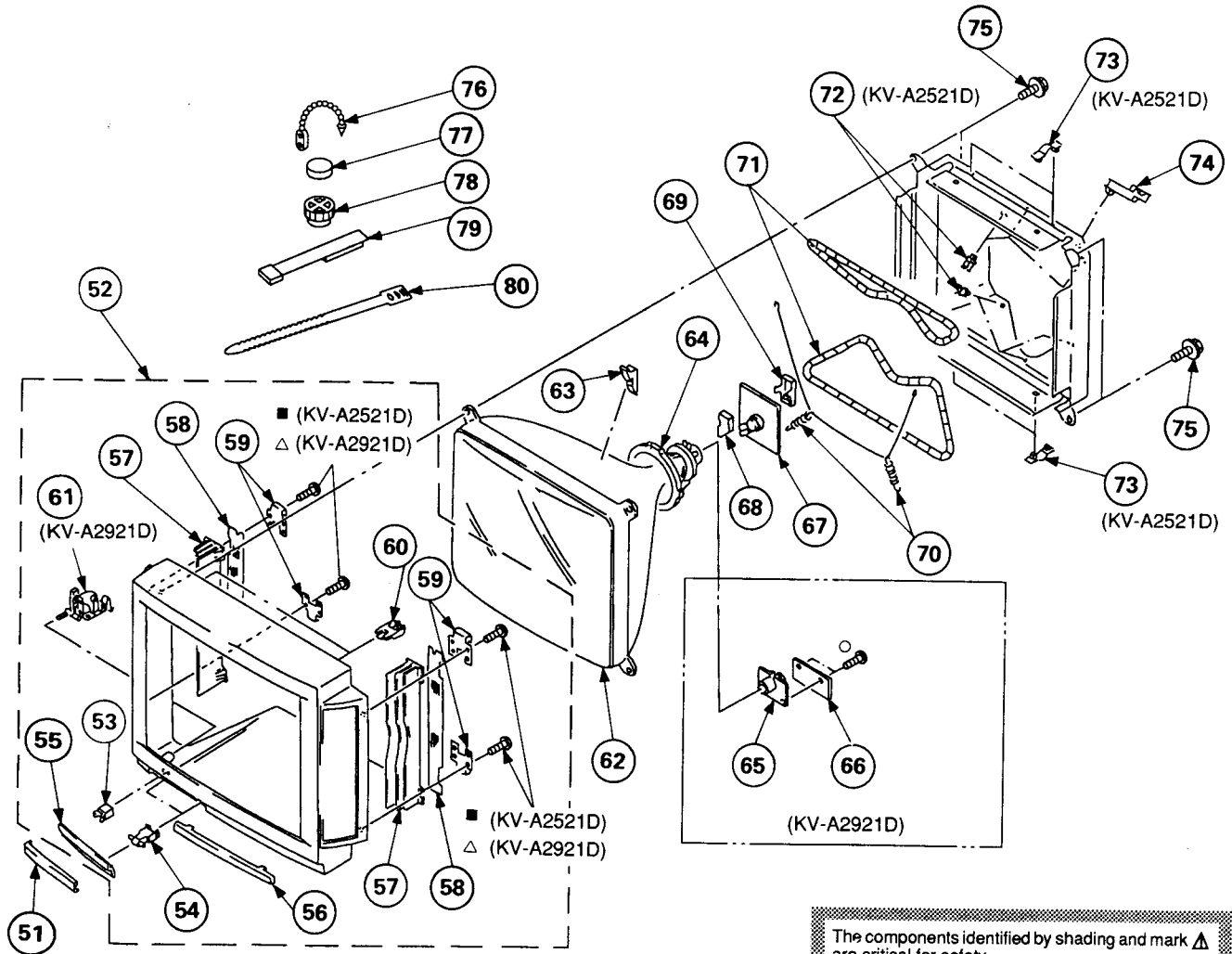
The components identified by shading and mark **△** are critical for safety.  
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*1-638-391-11	H1 BOARD		14	4-386-618-01	RIVET, T TYPE	
2	*1-638-392-11	H2 BOARD		15	*A-1632-022-A	A BOARD, COMPLETE	
3	4-031-044-01	BUTTON, POWER		16	△.1-465-301-11	TUNER, ET (UV-816(PLL))	
4	△.1-571-433-12	SWITCH, PUSH (AC POWER)		17	*4-031-095-01	BOARD (LEFT), BAFFLE	
5	*1-638-390-11	F BOARD		18	*4-031-102-01	BOX (LEFT), SPEAKER	
6	4-200-757-01	COVER, POWER SWITCH		19	△.4-389-201-03	HOLDER, AC CORD	
7	*A-1642-031-A	D BOARD, COMPLETE (KV-A2521D)		20	△.1-590-501-11	CORD, POWER (WITH NOISE FILTER)	
8	*A-1642-032-A	D BOARD, COMPLETE (KV-A2921D)		21	X-4029-440-1	GRILLE ASSY, SPEAKER	
9	△.1-439-416-51	TRANSFORMER ASSY, FLYBACK (UX-1650)		22	1-544-475-11	SPEAKER	
10	*4-386-624-11	BRACKET, J		23	*4-031-094-01	BOARD (RIGHT), BAFFLE	
11	*A-1651-018-A	J1 BOARD, COMPLETE (KV-A2521D)		24	*4-031-101-01	BOX (RIGHT), SPEAKER	
12	*A-1651-020-A	J1 BOARD, COMPLETE (KV-A2921D)		25	4-031-100-01	COVER, REAR (KV-A2521D)	
13	4-200-014-01	BRACKET, TERMINAL			4-032-133-01	COVER, REAR (KV-A2921D)	
	*A-1645-013-A	V BOARD, COMPLETE		26	*A-1654-004-A	IFG BOARD, COMPLETE	
	*A-1621-030-A	B1 BOARD, COMPLETE (KV-A2521D)		27	*3-646-071-00	HOLDER, WIRE	
	*A-1621-031-A	B1 BOARD, COMPLETE (KV-A2921D)					



## 6-4. PICTURE TUBE (KV-A2521D/A2921D)

- : BVTP4x16 7-685-663-79  
 △: BVTP4x12 7-685-661-79  
 ○: BVTP3x8 7-685-646-79



The components identified by shading and mark △ are critical for safety.  
 Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
51	4-031-050-01	ORNAMENT, DOOR (KV-A2521D)		64	△.1-451-311-21	DEFLECTION YOKE (Y25FXA) (KV-A2521D)	
	4-032-135-01	ORNAMENT, DOOR (KV-A2921D)			△.1-451-313-21	DEFLECTION YOKE (Y29FXA) (KV-A2921D)	
52	X-4029-439-1	CABINET ASSY (WITH BEZEL ASSY)	53~60 (KV-A2521D)	65	△.1-452-509-42	NECK ASSY, PICTURE TUBE (NA-308)	(KV-A2921D)
	X-4029-713-1	CABINET ASSY (WITH BEZEL ASSY)	53~61 (KV-A2921D)	66	*1-634-193-11	VM BOARD (KV-A2921D)	
53	4-392-036-01	CATCHER, PUSH		67	*A-1638-011-A	C BOARD, COMPLETE (KV-A2521D)	
54	3-703-035-11	SHAFT, LID			*A-1638-013-A	C BOARD, COMPLETE (KV-A2921D)	
55	4-031-049-01	DOOR (KV-A2521D)		68	*4-379-167-01	COVER (MAIN), CV	
	4-032-134-01	DOOR (KV-A2921D)		69	*4-379-160-01	COVER (REAR LID), CV	
56	4-031-097-01	PLATE, ORNAMENTAL (KV-A2521D)		70	4-303-774-99	SPRING (KV-A2521D)	
	4-032-203-01	WINDOW, ORNAMENTAL (KV-A2921D)			4-369-318-00	SPRING, TENSION (KV-A2921D)	
57	4-031-098-01	FIN, ACOUSTIC (KV-A2521D)		71	△.1-460-091-11	COIL, DEGAUSS (KV-A2521D)	
	4-032-201-01	FIN, ACOUSTIC (KV-A2921D)			△.1-426-535-11	COIL, DEGAUSSING (KV-A2921D)	
58	4-031-090-01	GRILLE, FRONT (KV-A2521D)		72	4-034-296-01	HOLDER, DGC (KV-A2521D)	
	4-032-204-01	GRILLE, FRONT (KV-A2921D)		73	*4-385-916-01	HOLDER (D) (KV-A2521D)	
59	4-031-088-01	BRACKET, SPEAKER		74	*4-387-284-01	HOLDER, LEAD	
60	4-382-745-01	HOLDER, RC		75	4-036-188-01	SCREW (M), PT	
61	X-4029-878-1	DAMPER ASSY (KV-A2921D)		76	4-308-870-00	CLIP, LEAD WIRE	
62	△.8-733-231-05	PICTURE TUBE (A59JWC61X) (KV-A2521D)		77	1-452-032-00	MAGNET, DISK; 10MM φ	
63	△.8-733-831-05	PICTURE TUBE (A68JYL61X) (KV-A2921D)		78	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM φ	
	3-704-495-01	SPACER, DY		79	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
				80	3-701-007-00	BAND, BINDING	



## SECTION 7 ELECTRICAL PARTS LIST

B1

**NOTE:**

The components identified by shading and mark **Δ** are critical for safety.  
Replace only with part number specified.

• Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

**RESISTORS**

• All resistors are in ohms  
• F: nonflammable

When indicating parts by reference number, please include the board name.

**CAPACITORS**

• MF:  $\mu$ F, PF:  $\mu$ F

**COILS**

• MMH: mH, UH:  $\mu$ H

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1621-042-A	B1 BOARD, COMPLETE (KV-A2121D) *****		C338	1-137-102-11	FILM 0.022MF	10% 250V
	*A-1621-030-A	B1 BOARD, COMPLETE (KV-A2521D) *****		C339	1-163-031-11	CERAMIC CHIP 0.01MF	50V
	*A-1621-031-A	B1 BOARD, COMPLETE (KV-A2921D) *****		C340	1-126-103-11	ELECT 470MF	20% 16V
				C341	1-163-031-11	CERAMIC CHIP 0.01MF	50V
				C342	1-124-903-11	ELECT 1MF	20% 50V
		<CONNECTOR>		C343	1-163-038-00	CERAMIC CHIP 0.1MF	25V
B31	*1-565-393-11	CONNECTOR, BOARD TO BOARD		C344	1-124-903-11	ELECT 1MF	20% 50V
B32	*1-565-393-11	CONNECTOR, BOARD TO BOARD		C345	1-137-094-11	FILM 0.047MF	10% 100V
B33	*1-565-393-11	CONNECTOR, BOARD TO BOARD		C346	1-137-033-11	FILM 0.33MF	10% 100V
B72	*1-568-881-51	PIN, CONNECTOR 6P		C347	1-137-098-11	FILM 0.1MF	10% 100V
B73	*1-568-878-51	PIN, CONNECTOR 3P					
				C348	1-137-102-11	FILM 0.022MF	10% 250V
				C349	1-137-102-11	FILM 0.022MF	10% 250V
				C350	1-124-902-00	ELECT 0.47MF	20% 50V
				C351	1-137-102-11	FILM 0.022MF	10% 250V
				C352	1-163-031-11	CERAMIC CHIP 0.01MF	50V
		<CAPACITOR>					
C301	1-137-031-11	FILM 0.22MF	10% 100V	C353	1-126-101-11	ELECT 100MF	20% 16V
C302	1-137-031-11	FILM 0.22MF	10% 100V	C354	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C303	1-124-122-11	ELECT 100MF	20% 50V	C356	1-126-101-11	ELECT 100MF	20% 16V
C304	1-137-031-11	FILM 0.22MF	10% 100V	C357	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C305	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C358	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C306	1-124-902-00	ELECT 0.47MF	20% 50V	C360	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C307	1-124-902-00	ELECT 0.47MF	20% 50V	C361	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C308	1-124-902-00	ELECT 0.47MF	20% 50V	C363	1-163-033-00	CERAMIC CHIP 0.022MF	50V
C309	1-124-902-00	ELECT 0.47MF	20% 50V	C371	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C310	1-137-098-11	FILM 0.1MF	10% 100V	C372	1-124-477-11	ELECT 47MF	20% 16V
C311	1-137-098-11	FILM 0.1MF	10% 100V	C373	1-124-477-11	ELECT 47MF	20% 16V
C312	1-124-902-00	ELECT 0.47MF	20% 50V	C374	1-163-090-00	CERAMIC CHIP 7PF	0.25PF 50V
C313	1-124-902-00	ELECT 0.47MF	20% 50V	C375	1-163-090-00	CERAMIC CHIP 7PF	0.25PF 50V
C314	1-124-902-00	ELECT 0.47MF	20% 50V	C376	1-124-034-51	ELECT 33MF	20% 16V
C315	1-124-903-11	ELECT 1MF	20% 50V	C377	1-124-119-00	ELECT 330MF	20% 16V
C316	1-124-927-11	ELECT 4.7MF	20% 50V	C378	1-124-034-51	ELECT 33MF	20% 16V
C317	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C379	1-163-090-00	CERAMIC CHIP 7PF	0.25PF 50V
C318	1-124-927-11	ELECT 4.7MF	20% 50V	C380	1-163-090-00	CERAMIC CHIP 7PF	0.25PF 50V
C319	1-124-927-11	ELECT 4.7MF	20% 50V	C381	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C320	1-124-910-11	ELECT 47MF	20% 50V	C382	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C321	1-137-027-11	FILM 0.82MF	10% 63V	C383	1-163-197-00	CERAMIC CHIP 470PF	5% 50V
C322	1-163-077-00	CERAMIC CHIP 0.1MF	50V	C384	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C323	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C385	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
C324	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C386	1-163-377-11	CERAMIC CHIP 100PF	5% 50V
C325	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C387	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C326	1-124-910-11	ELECT 47MF	20% 50V	C388	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C327	1-124-910-11	ELECT 47MF	20% 50V	C389	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C328	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C390	1-124-907-11	ELECT 10MF	20% 50V
C329	1-163-123-00	CERAMIC CHIP 180PF	5% 50V	C391	1-124-907-11	ELECT 10MF	20% 50V
C330	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C392	1-124-907-11	ELECT 10MF	20% 50V
C331	1-137-098-11	FILM 0.1MF	10% 100V	C393	1-126-101-11	ELECT 100MF	20% 16V
C332	1-137-098-11	FILM 0.1MF	10% 100V	C394	1-126-101-11	ELECT 100MF	20% 16V
C333	1-163-237-11	CERAMIC CHIP 27PF	5% 50V	C395	1-126-101-11	ELECT 100MF	20% 16V
C335	1-163-119-00	CERAMIC CHIP 120PF	5% 50V	C396	1-126-101-11	ELECT 100MF	20% 16V
C337	1-163-237-11	CERAMIC CHIP 27PF	5% 50V	C397	1-137-028-11	FILM 1MF	10% 63V
				C398	1-124-907-11	ELECT 10MF	20% 50V



**B1**

The components identified by shading and mark **Δ** are critical for safety.  
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C399	1-163-038-00	CERAMIC CHIP 0.1MF				<DELAY LINE>	
C1301	1-163-105-00	CERAMIC CHIP 33PF	5%	DL301	1-415-613-11	DELAY LINE, Y	
C1302	1-163-235-11	CERAMIC CHIP 22PF	5%			<FILTER>	
C1303	1-163-038-00	CERAMIC CHIP 0.1MF		FL301	1-236-620-11	FILTER, LOW PASS	
C1304	1-124-907-11	ELECT 10MF	20%	FL302	1-236-620-11	FILTER, LOW PASS	
				FL303	1-236-620-11	FILTER, LOW PASS	
C1305	1-126-101-11	ELECT 100MF	20%	FL305	1-236-164-11	ENCAPSULATED COMPONENT	
C1306	1-163-038-00	CERAMIC CHIP 0.1MF				<IC>	
C1307	1-163-038-00	CERAMIC CHIP 0.1MF		IC301	8-759-517-43	IC TDA4580-V7	
C1308	1-163-038-00	CERAMIC CHIP 0.1MF		IC302	8-759-980-60	IC TDA8442N3	
C1309	1-163-031-11	CERAMIC CHIP 0.01MF		IC303	8-759-510-48	IC TDA4660T	
				IC304	8-759-510-47	IC TDA4650WP	
C1310	1-163-031-11	CERAMIC CHIP 0.01MF		IC305	8-759-144-84	IC UPC24M05HF	
C1311	1-163-038-00	CERAMIC CHIP 0.1MF					
C1312	1-163-038-00	CERAMIC CHIP 0.1MF		IC306	8-759-510-50	IC HCF4052BM	
C1313	1-163-038-00	CERAMIC CHIP 0.1MF		IC308	8-752-006-12	IC CX20061	
C1314	1-163-109-00	CERAMIC CHIP 47PF	5%	IC310	8-752-337-07	IC CXD2011Q	
				IC311	8-759-996-49	IC MB40968PF	
C1315	1-163-038-00	CERAMIC CHIP 0.1MF		IC312	8-752-338-45	IC CXK1202Q	
C1316	1-163-141-00	CERAMIC CHIP 0.001MF	5%				
C1317	1-163-038-00	CERAMIC CHIP 0.1MF		IC313	8-752-338-45	IC CXK1202Q	
C1318	1-163-038-00	CERAMIC CHIP 0.1MF		IC315	8-752-334-55	IC CXD1175AM	
C1319	1-163-031-11	CERAMIC CHIP 0.01MF				<COIL>	
				L301	1-408-405-00	INDUCTOR 4.7UH	
C1320	1-163-031-11	CERAMIC CHIP 0.01MF		L303	1-404-554-11	COIL	
C1321	1-163-031-11	CERAMIC CHIP 0.01MF		L304	1-408-405-00	INDUCTOR 4.7UH	
C1322	1-163-031-11	CERAMIC CHIP 0.01MF		L305	1-408-402-00	INDUCTOR 2.7UH	
C1323	1-163-031-11	CERAMIC CHIP 0.01MF		L306	1-408-405-00	INDUCTOR 4.7UH	
C1324	1-163-033-00	CERAMIC CHIP 0.022MF					
				L308	1-404-495-00	COIL	
C1325	1-163-038-00	CERAMIC CHIP 0.1MF		L309	1-408-415-00	INDUCTOR 33UH	
C1326	1-163-031-11	CERAMIC CHIP 0.01MF		L310	1-408-419-00	INDUCTOR 68UH	
C1327	1-163-115-00	CERAMIC CHIP 82PF	5%	L312	1-404-495-00	COIL	
C1328	1-163-809-11	CERAMIC CHIP 0.047MF	10%	L313	1-404-554-11	COIL	
C1329	1-163-035-00	CERAMIC CHIP 0.047MF					
				L314	1-408-409-00	INDUCTOR 10UH	
C1330	1-164-232-11	CERAMIC CHIP 0.01MF	10%	L320	1-408-405-00	INDUCTOR 4.7UH	
C1331	1-164-187-11	CERAMIC CHIP 390PF	2%	L321	1-408-405-00	INDUCTOR 4.7UH	
C1333	1-126-101-11	ELECT 100MF	20%	L323	1-408-398-00	INDUCTOR 1.2UH	
				L325	1-408-405-00	INDUCTOR 4.7UH	
				L326	1-408-421-00	INDUCTOR 100UH	
				L327	1-408-402-00	INDUCTOR 2.7UH	
				L1301	1-408-425-00	INDUCTOR 220UH	
						<IC LINK>	
				PS301Δ	1-532-605-91	LINK, IC (ICP-N10) 0.4A	
						<TRANSISTOR>	
				Q301	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
				Q302	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
				Q303	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
				Q304	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
				Q305	8-729-901-06	TRANSISTOR DTA144EK	
				Q306	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
				Q307	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
				Q308	8-729-901-00	TRANSISTOR DTC124EK	
				Q310	8-729-901-00	TRANSISTOR DTC124EK	
				Q311	8-729-901-00	TRANSISTOR DTC124EK	
				Q320	8-729-120-28	TRANSISTOR 2SC1623-L5L6	



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
Q321	8-729-216-22	TRANSISTOR 2SA1162-G		R306	1-216-035-00	METAL GLAZE 270 5%	1/10W
Q322	8-729-216-22	TRANSISTOR 2SA1162-G		R307	1-216-097-00	METAL GLAZE 100K 5%	1/10W
Q323	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R309	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q324	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R310	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q327	8-729-216-22	TRANSISTOR 2SA1162-G		R311	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q328	8-729-216-22	TRANSISTOR 2SA1162-G		R312	1-216-021-00	METAL GLAZE 68 5%	1/10W
Q329	8-729-216-22	TRANSISTOR 2SA1162-G		R313	1-216-021-00	METAL GLAZE 68 5%	1/10W
Q330	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R314	1-216-021-00	METAL GLAZE 68 5%	1/10W
Q331	8-729-216-22	TRANSISTOR 2SA1162-G		R316	1-216-081-00	METAL GLAZE 22K 5%	1/10W
Q332	8-729-216-22	TRANSISTOR 2SA1162-G		R317	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q333	8-729-901-00	TRANSISTOR DTC124EK		R318	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q334	8-729-901-00	TRANSISTOR DTC124EK		R319	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q335	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R320	1-216-198-00	METAL GLAZE 1K 5%	1/8W
Q336	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R321	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q337	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R322	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q338	8-729-216-22	TRANSISTOR 2SA1162-G		R323	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q339	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R324	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q340	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R325	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q341	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R326	1-216-311-00	METAL GLAZE 6.8 5%	1/10W
Q342	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R327	1-216-311-00	METAL GLAZE 6.8 5%	1/10W
Q343	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R328	1-216-311-00	METAL GLAZE 6.8 5%	1/10W
Q344	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R329	1-216-031-00	METAL GLAZE 180 5%	1/10W
Q345	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R330	1-216-031-00	METAL GLAZE 180 5%	1/10W
Q346	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R331	1-216-031-00	METAL GLAZE 180 5%	1/10W
Q347	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R332	1-216-182-00	METAL GLAZE 220 5%	1/8W
Q348	8-729-901-00	TRANSISTOR DTC124EK		R333	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q350	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R335	1-216-101-00	METAL GLAZE 150K 5%	1/10W
Q352	8-729-216-22	TRANSISTOR 2SA1162-G		R336	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q353	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R337	1-216-093-00	METAL GLAZE 68K 5%	1/10W
Q354	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R338	1-216-085-00	METAL GLAZE 33K 5%	1/10W
Q355	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R339	1-216-083-00	METAL GLAZE 27K 5%	1/10W
Q356	8-729-216-22	TRANSISTOR 2SA1162-G		R340	1-216-105-00	METAL GLAZE 220K 5%	1/10W
Q357	8-729-216-22	TRANSISTOR 2SA1162-G		R341	1-216-115-00	METAL GLAZE 560K 5%	1/10W
Q358	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R342	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
Q359	8-729-216-22	TRANSISTOR 2SA1162-G		R343	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q360	8-729-120-28	TRANSISTOR 2SC1623-L5L6					(KV-A2121D)
Q361	8-729-120-28	TRANSISTOR 2SC1623-L5L6			1-216-035-00	METAL GLAZE 270 5%	1/10W
Q362	8-729-120-28	TRANSISTOR 2SC1623-L5L6					(KV-A2521D)
Q363	8-729-120-28	TRANSISTOR 2SC1623-L5L6			1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
Q364	8-729-216-22	TRANSISTOR 2SA1162-G					(KV-A2921D)
Q365	8-729-216-22	TRANSISTOR 2SA1162-G		R344	1-216-089-00	METAL GLAZE 47K 5%	1/10W
Q366	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R345	1-216-097-00	METAL GLAZE 100K 5%	1/10W
Q367	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R346	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q368	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R347	1-216-121-00	METAL GLAZE 1M 5%	1/10W
Q369	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R348	1-216-001-00	METAL GLAZE 10 5%	1/10W
Q370	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R349	1-216-001-00	METAL GLAZE 10 5%	1/10W
Q371	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R350	1-216-184-00	METAL GLAZE 270 5%	1/8W
Q372	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R351	1-216-184-00	METAL GLAZE 270 5%	1/8W
Q373	8-729-901-00	TRANSISTOR DTC124EK		R352	1-216-070-00	METAL GLAZE 7.5K 5%	1/10W
Q1301	8-729-901-00	TRANSISTOR DTC124EK		R353	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q1302	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R354	1-216-037-00	METAL GLAZE 330 5%	1/10W
Q1303	8-729-901-00	TRANSISTOR DTC124EK		R355	1-216-033-00	METAL GLAZE 220 5%	1/10W
<RESISTOR>				R357	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
JR302	1-216-295-00	METAL GLAZE 0 5%	1/10W	R358	1-216-037-00	METAL GLAZE 330 5%	1/10W
JR304	1-216-296-00	METAL GLAZE 0 5%	1/8W	R359	1-216-041-00	METAL GLAZE 470 5%	1/10W
JR305	1-216-295-00	METAL GLAZE 0 5%	1/10W	R361	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR391	1-216-295-00	METAL GLAZE 0 5%	1/10W	R362	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R301	1-216-033-00	METAL GLAZE 220 5%	1/10W	R363	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
R302	1-216-033-00	METAL GLAZE 220 5%	1/10W	R364	1-216-033-00	METAL GLAZE 220 5%	1/10W
R303	1-216-033-00	METAL GLAZE 220 5%	1/10W	R365	1-216-035-00	METAL GLAZE 270 5%	1/10W
R304	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R366	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
R305	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R367	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
				R368	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W



**B1**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R369	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R1336	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R370	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1337	1-216-657-11	METAL CHIP	1.8K 0.50% 1/10W
R371	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1338	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R372	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1339	1-216-039-00	METAL GLAZE	390 5% 1/10W
R373	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R1340	1-216-025-00	METAL GLAZE	100 5% 1/10W
R374	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1341	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W
R375	1-216-043-00	METAL GLAZE	560 5% 1/10W	R1342	1-216-025-00	METAL GLAZE	100 5% 1/10W
R376	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1343	1-216-043-00	METAL GLAZE	560 5% 1/10W
R377	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1344	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R378	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1345	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R379	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1346	1-216-025-00	METAL GLAZE	100 5% 1/10W
R380	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1347	1-216-025-00	METAL GLAZE	100 5% 1/10W
R381	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1348	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R382	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R1349	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R383	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1350	1-216-039-00	METAL GLAZE	390 5% 1/10W
R384	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R1351	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R385	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1352	1-216-041-00	METAL GLAZE	470 5% 1/10W
R386	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R1353	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R387	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1354	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R388	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R1355	1-216-045-00	METAL GLAZE	680 5% 1/10W
R389	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1356	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R390	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1357	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R391	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1358	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R392	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1359	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R393	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1360	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R394	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1361	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R395	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1362	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R396	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1363	1-216-039-00	METAL GLAZE	390 5% 1/10W
R397	1-216-047-00	METAL GLAZE	820 5% 1/10W	R1364	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R398	1-216-035-00	METAL GLAZE	270 5% 1/10W	R1365	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R399	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1366	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R1301	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1367	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R1302	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1368	1-216-033-00	METAL GLAZE	220 5% 1/10W
R1303	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1369	1-216-031-00	METAL GLAZE	180 5% 1/10W
R1305	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R1370	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R1308	1-216-295-00	METAL GLAZE	0 5% 1/10W	R1371	1-216-031-00	METAL GLAZE	180 5% 1/10W
	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1372	1-216-047-00	METAL GLAZE	820 5% 1/10W
R1309	1-216-023-00	METAL GLAZE	82 5% 1/10W	R1373	1-216-035-00	METAL GLAZE	270 5% 1/10W
R1310	1-216-047-00	METAL GLAZE	820 5% 1/10W	R1374	1-216-202-00	METAL GLAZE	1.5K 5% 1/8W
R1311	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1375	1-216-208-00	METAL GLAZE	2.7K 5% 1/8W
R1312	1-216-039-00	METAL GLAZE	390 5% 1/10W	R1376	1-216-087-11	METAL GLAZE	39K 5% 1/10W
R1313	1-216-043-00	METAL GLAZE	560 5% 1/10W	R1377	1-216-087-11	METAL GLAZE	39K 5% 1/10W
R1314	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1378	1-216-087-11	METAL GLAZE	39K 5% 1/10W
R1315	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1379	1-216-087-11	METAL GLAZE	39K 5% 1/10W
R1316	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1380	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R1319	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1381	1-216-033-00	METAL GLAZE	220 5% 1/10W
R1320	1-216-641-11	METAL CHIP	390 0.50% 1/10W	R1382	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R1321	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1383	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R1322	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R1384	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R1323	1-216-643-11	METAL CHIP	470 0.50% 1/10W	R1385	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R1324	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1386	1-216-047-00	METAL GLAZE	820 5% 1/10W
R1325	1-216-037-00	METAL GLAZE	330 5% 1/10W	R1387	1-216-031-00	METAL GLAZE	180 5% 1/10W
R1326	1-216-045-00	METAL GLAZE	680 5% 1/10W	R1388	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1327	1-216-029-00	METAL GLAZE	150 5% 1/10W	R1389	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1328	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1390	1-216-093-00	METAL GLAZE	68K 5% 1/10W
R1329	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1391	1-216-208-00	METAL GLAZE	2.7K 5% 1/8W
R1330	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1392	1-216-047-00	METAL GLAZE	820 5% 1/10W
R1331	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1393	1-216-047-00	METAL GLAZE	820 5% 1/10W
R1332	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1394	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R1333	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R1395	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R1334	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R1396	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R1335	1-216-043-00	METAL GLAZE	560 5% 1/10W	R1397	1-216-073-00	METAL GLAZE	10K 5% 1/10W
				R1398	1-216-001-00	METAL GLAZE	10 5% 1/10W



The components identified by shading and mark **Δ** are critical for safety.  
Replace only with part number specified.

**B1 F A**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R1399	1-216-029-00	METAL GLAZE 150 5% 1/10W				<IC>	
		<VARIABLE RESISTOR>		IC103	8-759-979-62	IC PCF8574	
RV301	1-238-012-11	RES, ADJ, CARBON 1K				<COIL>	
		<CRYSTAL>		L100	1-410-683-31	INDUCTOR 560UH	
X301	1-567-307-11	OSCILLATOR, CRYSTAL		L101	1-408-225-00	INDUCTOR 3.3UH	
X302	1-567-131-00	OSCILLATOR, CRYSTAL		L102	1-408-413-00	INDUCTOR 22UH	
		*****		L107	1-408-397-00	INDUCTOR 1UH	
		*1-638-390-11 F BOARD				<TRANSISTOR>	
		*****		Q113	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
		*4-341-752-01 EYELET		Q114	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
		<CONNECTOR>		Q115	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
F61	*1-580-844-11	PIN, CONNECTOR (POWER)		Q116	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
F62	*1-580-844-11	PIN, CONNECTOR (POWER)		Q125	8-729-900-89	TRANSISTOR DTC144ES	
		<FUSE>		Q126	8-729-901-06	TRANSISTOR DTA144EK	
F1601	Δ 1-576-231-21	FUSE (H.B.C.) 4A/250V		Q181	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
	1-533-230-11	HOLDER, FUSE; F1601				<RESISTOR>	
		<SWITCH>		JR230	1-216-295-00	METAL GLAZE 0 5% 1/10W	
S1701	Δ 1-571-433-12	SWITCH, PUSH (AC POWER)		JR252	1-216-296-00	METAL GLAZE 0 5% 1/8W	
		*****		JR253	1-216-296-00	METAL GLAZE 0 5% 1/8W	
		*A-1632-022-A A BOARD, COMPLETE		JR255	1-216-296-00	METAL GLAZE 0 5% 1/8W	
		*****		JR256	1-216-296-00	METAL GLAZE 0 5% 1/8W	
		<CONNECTOR>		JR257	1-216-296-00	METAL GLAZE 0 5% 1/8W	
A11	*1-565-393-11	CONNECTOR, BOARD TO BOARD		JR258	1-216-296-00	METAL GLAZE 0 5% 1/8W	
A12	*1-565-393-11	CONNECTOR, BOARD TO BOARD		R101	1-216-025-00	METAL GLAZE 100 5% 1/10W	
A13	*1-565-503-11	CONNECTOR, BOARD TO BOARD 12P		R105	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
A16	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)		R107	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
A17	*1-564-886-11	PLUG, CONNECTOR 9P		R108	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
A19	*1-564-881-11	PLUG, CONNECTOR 4P		R110	1-249-429-11	CARBON 10K 5% 1/4W	
		<CAPACITOR>		R111	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
C101	1-126-233-11	ELECT 22MF 20% 50V		R116	1-216-023-00	METAL GLAZE 82 5% 1/10W	
C102	1-126-103-11	ELECT 470MF 20% 16V		R118	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
C104	1-124-910-11	ELECT 47MF 20% 50V		R128	1-216-027-00	METAL GLAZE 120 5% 1/10W	
C106	1-126-233-11	ELECT 22MF 20% 50V		R129	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
C108	1-136-165-00	FILM 0.1MF 5% 50V		R130	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
C109	1-163-133-00	CERAMIC CHIP 470PF 5% 50V		R157	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
C111	1-124-925-11	ELECT 2.2MF 20% 50V		R158	1-249-409-11	CARBON 220 5% 1/4W	
C115	1-124-925-11	ELECT 2.2MF 20% 50V		R159	1-249-409-11	CARBON 220 5% 1/4W	
C127	1-124-122-11	ELECT 100MF 20% 50V		R161	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
C128	1-124-910-11	ELECT 47MF 20% 50V		R162	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
C129	1-124-910-11	ELECT 47MF 20% 50V		R163	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
C138	1-136-165-00	FILM 0.1MF 5% 50V		R164	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
C171	1-163-005-11	CERAMIC CHIP 470PF 10% 50V		R165	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
C172	1-163-005-11	CERAMIC CHIP 470PF 10% 50V		R167	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
C177	1-102-074-00	CERAMIC 0.001MF 10% 50V		R168	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
C181	1-101-004-00	CERAMIC 0.01MF 50V		R169	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
				R181	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
						<TUNER>	
				TU101	Δ 1-465-301-11	TUNER, ET (UV-816(PLL))	





REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<IF BLOCK>				<TRANSISTOR>			
VIF101	1-466-154-11	IF BLOCK (IFG-389S)					
*****				Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE	
*A-1638-014-A	C BOARD, COMPLETE (KV-A2121D)			Q703	8-729-906-70	TRANSISTOR BF871	
*****				Q704	8-729-200-17	TRANSISTOR 2SA1091-0	
*A-1638-011-A	C BOARD, COMPLETE (KV-A2521D)			Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE	
*****				Q706	8-729-906-70	TRANSISTOR BF871	
*A-1638-013-A	C BOARD, COMPLETE (KV-A2921D)			Q707	8-729-200-17	TRANSISTOR 2SA1091-0	
*****				Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE	
*4-379-160-01	COVER (REAR LID), CV			Q709	8-729-906-70	TRANSISTOR BF871	
*4-379-167-01	COVER (MAIN), CV			Q710	8-729-200-17	TRANSISTOR 2SA1091-0	
<CONNECTOR>				<RESISTOR>			
C71	*1-506-371-00	PIN, CONNECTOR 2P		R704	1-216-486-00	METAL OXIDE 8.2K 5% 3W F	
C72	*1-568-881-51	PIN, CONNECTOR 6P		R705	1-202-824-00	SOLID 3.3K 10% 1/2W	
C81	*1-568-878-51	PIN, CONNECTOR 3P		R706	1-249-409-11	CARBON 220 5% 1/4W	
C82	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		R707	1-247-822-11	CARBON 430 5% 1/4W	(KV-A2121D)
<CAPACITOR>					1-249-412-11	CARBON 390 5% 1/4W	(KV-A2521D, A2921D)
C703	1-102-980-00	CERAMIC 270PF 5% 50V		R708	1-249-401-11	CARBON 47 5% 1/4W	
C704	1-102-116-00	CERAMIC 680PF 10% 50V		R709	1-202-844-00	SOLID 330K 10% 1/2W	
C705	1-102-976-00	CERAMIC 180PF 5% 50V	(KV-A2121D)	R710	1-215-469-00	METAL 100K 1% 1/4W	
	1-102-978-00	CERAMIC 220PF 5% 50V	(KV-A2521D, A2921D)		1-215-465-00	METAL 68K 1% 1/4W	(KV-A2521D, A2921D)
C706	1-102-116-00	CERAMIC 680PF 10% 50V		R711	1-249-426-11	CARBON 5.6K 5% 1/4W	
C707	1-162-116-00	CERAMIC 680PF 10% 2KV		R712	1-249-417-11	CARBON 1K 5% 1/4W	
C708	1-162-114-00	CERAMIC 0.0047MF 2KV		R713	1-215-474-00	METAL 160K 1% 1/4W	(KV-A2121D)
C709	1-102-116-00	CERAMIC 680PF 10% 50V			1-215-471-00	METAL 120K 1% 1/4W	(KV-A2521D, A2921D)
C710	1-123-947-00	ELECT 10MF 20% 250V		R714	1-216-486-00	METAL OXIDE 8.2K 5% 3W F	
C711	1-101-880-00	CERAMIC 47PF 5% 50V		R715	1-202-824-00	SOLID 3.3K 10% 1/2W	
C712	1-102-980-00	CERAMIC 270PF 5% 50V		R716	1-249-409-11	CARBON 220 5% 1/4W	
C714	1-124-360-00	ELECT 1000MF 20% 16V		R717	1-249-415-11	CARBON 680 5% 1/4W	
C716	1-162-622-11	CERAMIC 330PF 10% 400V		R718	1-202-814-11	SOLID 33K 10% 1/2W	
C717	1-102-114-00	CERAMIC 470PF 10% 50V		R719	1-249-401-11	CARBON 47 5% 1/4W	
C718	1-102-114-00	CERAMIC 470PF 10% 50V		R720	1-249-423-11	CARBON 3.3K 5% 1/4W	
C719	1-102-114-00	CERAMIC 470PF 10% 50V		R721	1-202-842-11	SOLID 220K 10% 1/2W	
<DIODE>				R722	1-202-848-00	SOLID 680K 10% 1/2W	
D701	8-719-110-14	DIODE RD9.1ES-B3		R723	1-249-417-11	CARBON 1K 5% 1/4W	
D702	8-719-911-19	DIODE 1SS119		R724	1-202-846-00	SOLID 470K 10% 1/2W	
D703	8-719-911-19	DIODE 1SS119		R725	1-202-838-00	SOLID 100K 10% 1/2W	
D704	8-719-911-19	DIODE 1SS119		R726	1-202-824-00	SOLID 3.3K 10% 1/2W	
D705	8-719-911-19	DIODE 1SS119		R727	1-249-409-11	CARBON 220 5% 1/4W	
D706	8-719-911-19	DIODE 1SS119		R728	1-216-347-11	METAL OXIDE 0.68 5% 1W F	
D707	8-719-911-19	DIODE 1SS119		R729	1-249-416-11	CARBON 820 5% 1/4W	
D708	8-719-911-19	DIODE 1SS119		R730	1-249-401-11	CARBON 47 5% 1/4W	
D709	8-719-911-19	DIODE 1SS119		R731	1-249-423-11	CARBON 3.3K 5% 1/4W	
D710	8-719-911-19	DIODE 1SS119		R732	1-249-415-11	CARBON 680 5% 1/4W	
D711	8-719-300-33	DIODE RU-3AM		R733	1-249-415-11	CARBON 680 5% 1/4W	
D713	8-719-911-19	DIODE 1SS119		R734	1-249-405-11	CARBON 100 5% 1/4W	
<JACK>				R735	1-215-493-00	METAL 1M 1% 1/4W	
J701	1-526-990-11	SUCKET, PICTURE TUBE		R736	1-216-486-00	METAL OXIDE 8.2K 5% 3W F	
<COIL>				R737	1-215-483-00	METAL 390K 1% 1/4W	(KV-A2121D)
L704	1-408-415-00	INDUCTOR 33UH			1-215-491-00	METAL 820K 1% 1/4W	(KV-A2521D)
					1-215-485-00	METAL 470K 1% 1/4W	(KV-A2921D)
				R739	1-249-417-11	CARBON 1K 5% 1/4W	



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C D

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<VARIABLE RESISTOR>				C506	1-137-102-11	FILM 0.022MF	10% 250V
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M		C507	1-137-033-11	FILM 0.33MF	10% 100V
RV702	1-230-619-11	RES, ADJ, METAL GLAZE 110M		C508	1-137-102-11	FILM 0.022MF	10% 250V
RV703	1-237-749-11	RES, ADJ, CARBON 2200		C509	1-137-098-11	FILM 0.1MF	10% 100V
RV704	1-237-749-11	RES, ADJ, CARBON 2200		C510	1-161-959-00	CERAMIC 22PF	10% 500V
*****				C511	1-108-686-11	MYLAR 0.0033MF	10% 100V
*A-1642-035-A	D BOARD, COMPLETE (KV-A2121D)			C512	1-137-098-11	FILM 0.1MF	10% 100V
*A-1642-031-A	D BOARD, COMPLETE (KV-A2521D)			C513	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
*A-1642-032-A	D BOARD, COMPLETE (KV-A2921D)			C514	1-137-031-11	FILM 0.22MF	10% 100V
*****				C515	1-124-903-11	ELECT 1MF	20% 50V
4-200-001-01	HOLDER, IC			C516	1-108-680-11	MYLAR 0.001MF	10% 100V
4-201-023-01	SPACER, INSULATING			C517	1-124-252-00	ELECT 0.33MF	20% 50V
*4-341-751-01	EYELET			C518	1-124-902-00	ELECT 0.47MF	20% 50V
*4-341-752-01	EYELET			C519	1-136-173-00	FILM 0.47MF	5% 50V
*4-368-683-01	SPRING				1-136-171-00	FILM 0.33MF	(KV-A2121D, A2521D) 5% 50V
<CAPACITOR>							(KV-A2921D) 50V
C002	1-163-205-00	CERAMIC CHIP 0.001MF	5% 50V	C520	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
C003	1-124-925-11	ELECT 2.2MF	20% 50V	C521	1-137-098-11	FILM 0.1MF	10% 100V
C004	1-124-120-11	ELECT 220MF	20% 16V	C522	1-124-122-11	ELECT 100MF	20% 50V
C005	1-124-903-11	ELECT 1MF	20% 50V	C523	1-108-680-11	MYLAR 0.001MF	10% 100V
C008	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C524	1-108-798-11	MYLAR 0.0033MF	5% 50V
C009	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C525	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C010	1-124-120-11	ELECT 220MF	20% 16V	C526	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C011	1-163-031-11	CERAMIC CHIP 0.01MF	50V		1-163-101-00	CERAMIC CHIP 22PF	(KV-A2121D, A2521D) 5% 50V
C013	1-137-098-11	FILM 0.1MF	10% 100V				(KV-A2921D) 100V
C014	1-137-098-11	FILM 0.1MF	10% 100V	C527	1-137-098-11	FILM 0.1MF	10% 100V
C015	1-124-902-00	ELECT 0.47MF	20% 50V	C531	1-124-190-00	ELECT 680MF	10% 25V
C016	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	C532	1-124-122-11	ELECT 100MF	20% 50V
C017	1-137-098-11	FILM 0.1MF	10% 100V	C533	1-137-096-11	FILM 0.068MF	10% 100V
C018	1-163-127-00	CERAMIC CHIP 270PF	5% 50V	C534	1-124-120-11	ELECT 220MF	20% 16V
C019	1-137-094-11	FILM 0.047MF	10% 100V	C536	1-131-363-00	TANTALUM 4.7MF	10% 16V
C021	1-163-117-00	CERAMIC CHIP 100PF	5% 50V		1-131-365-00	TANTALUM 10MF	10% 16V
C023	1-163-117-00	CERAMIC CHIP 100PF	5% 50V				(KV-A2521D, A2921D) 10% 16V
C024	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C537	1-124-903-11	ELECT 1MF	20% 50V
C027	1-124-910-11	ELECT 47MF	20% 50V	C538	1-108-680-11	MYLAR 0.001MF	10% 100V
C030	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C539	1-163-129-00	CERAMIC CHIP 330PF	5% 50V
C031	1-163-081-00	CERAMIC CHIP 0.22MF	25V	C540	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C032	1-163-081-00	CERAMIC CHIP 0.22MF	25V	C592	1-124-122-11	ELECT 100MF	20% 50V
C033	1-163-181-00	CERAMIC CHIP 100PF	5% 50V	C593	1-163-129-00	CERAMIC CHIP 330PF	5% 50V
C034	1-124-907-11	ELECT 10MF	20% 50V	C601 $\Delta$	1-161-964-61	CERAMIC 0.0047MF	250V
C251	1-124-903-11	ELECT 1MF	20% 50V	C602 $\Delta$	1-161-964-61	CERAMIC 0.0047MF	250V
C252	1-126-233-11	ELECT 22MF	20% 50V	C603 $\Delta$	1-161-964-61	CERAMIC 0.0047MF	250V
C253	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C604 $\Delta$	1-125-318-11	ELECT(BLOCK) 220MF	20% 400V
C254	1-137-098-11	FILM 0.1MF	10% 100V	C605	1-124-484-11	ELECT 220MF	20% 35V
C255	1-124-636-00	ELECT 3300MF	20% 25V	C606	1-163-137-00	CERAMIC CHIP 680PF	5% 50V
C261	1-124-903-11	ELECT 1MF	20% 50V	C607	1-137-028-11	FILM 1MF	10% 63V
C262	1-126-233-11	ELECT 22MF	20% 50V	C608	1-124-927-11	ELECT 4.7MF	20% 50V
C263	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C611	1-124-910-11	ELECT 47MF	20% 50V
C264	1-137-098-11	FILM 0.1MF	10% 100V	C612	1-108-680-11	MYLAR 0.001MF	10% 100V
C265	1-124-564-11	ELECT 4700MF	20% 25V	C613	1-136-539-11	FILM 0.0022MF	3% 2KV
C270	1-137-035-11	FILM 0.47MF	10% 100V	C614	1-102-030-00	CERAMIC 330PF	10% 500V
C274	1-137-035-11	FILM 0.47MF	10% 100V	C615	1-128-142-11	ELECT 1500MF	20% 25V
C501	1-124-927-11	ELECT 4.7MF	20% 50V	C616	1-102-030-00	CERAMIC 330PF	10% 500V
C502	1-124-927-11	ELECT 4.7MF	20% 50V	C617	1-124-120-11	ELECT 220MF	20% 25V
C503	1-137-049-11	FILM 0.015MF	10% 400V		1-124-122-11	ELECT 100MF	20% 50V
C504	1-163-121-00	CERAMIC CHIP 150PF	5% 50V				(KV-A2121D) 50V
C505	1-108-794-11	MYLAR 0.0015MF	5% 50V	C618	1-162-115-00	CERAMIC 330PF	10% 2KV
				C619	1-128-320-11	ELECT 2200MF	20% 16V
				C620	1-137-028-11	FILM 1MF	10% 63V
							(KV-A2121D)



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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R018	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R085	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R019	1-216-025-00	METAL GLAZE	100 5% 1/10W	R086	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R020	1-216-025-00	METAL GLAZE	100 5% 1/10W	R087	1-216-035-00	METAL GLAZE	270 5% 1/10W
R021	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R088	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R022	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R093	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R024	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R094	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R025	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R095	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R026	1-216-182-00	METAL GLAZE	220 5% 1/8W	R096	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R027	1-216-025-00	METAL GLAZE	100 5% 1/10W	R098	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R028	1-216-025-00	METAL GLAZE	100 5% 1/10W	R251	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R029	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R252	1-216-039-00	METAL GLAZE	390 5% 1/10W
R030	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R253	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R031	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R254	1-216-357-00	METAL OXIDE	4.7 5% 1W F
R032	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R255	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R033	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R256	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R034	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R257	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R035	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R258	1-215-869-11	METAL OXIDE	1K 5% 1W F
R036	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R259	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R037	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R261	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R038	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R262	1-216-039-00	METAL GLAZE	390 5% 1/10W
R039	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R263	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R040	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R264	1-216-357-00	METAL OXIDE	4.7 5% 1W F
R041	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R265	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R042	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R266	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R043	1-216-041-00	METAL GLAZE	470 5% 1/10W	R267	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R044	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R268	1-215-869-11	METAL OXIDE	1K 5% 1W F
R045	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R269	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R046	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R270	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R047	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R271	1-216-045-00	METAL GLAZE	680 5% 1/10W
R048	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R272	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R049	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R273	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R050	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R274	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R051	1-216-041-00	METAL GLAZE	470 5% 1/10W	R500	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R052	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R501	1-216-041-00	METAL GLAZE	470 5% 1/10W
R053	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R502	1-216-033-00	METAL GLAZE	220 5% 1/10W
R054	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R503	1-216-035-00	METAL GLAZE	270 5% 1/10W
R055	1-216-037-00	METAL GLAZE	330 5% 1/10W	R504	1-249-420-11	CARBON	1.8K 5% 1/4W
R056	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R505	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R057	1-216-025-00	METAL GLAZE	100 5% 1/10W	R506	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R058	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R509	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R059	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R510	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R060	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R514	1-216-033-00	METAL GLAZE	220 5% 1/10W
R061	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R515	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R062	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R517	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R063	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R518	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R064	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R519	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R065	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R520	1-216-037-00	METAL GLAZE	330 5% 1/10W
R066	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R521	1-216-025-00	METAL GLAZE	100 5% 1/10W
R067	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R522	1-215-469-00	METAL	100K 1% 1/4W
R068	1-216-174-00	METAL GLAZE	100 5% 1/8W	R523	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R069	1-216-174-00	METAL GLAZE	100 5% 1/8W	R524	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R070	1-216-198-00	METAL GLAZE	1K 5% 1/8W	R525	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R071	1-216-198-00	METAL GLAZE	1K 5% 1/8W	R526	1-249-409-11	CARBON	220 5% (KV-A2121D, A2521D) 1/4W F
R072	1-216-222-00	METAL GLAZE	10K 5% 1/8W	R527	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R073	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R528	1-216-031-00	METAL GLAZE	180 5% 1/10W
R075	1-216-041-00	METAL GLAZE	470 5% 1/10W	R529	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R076	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R530	1-249-448-11	CARBON	1.2 5% 1/4W F
R077	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R531	1-216-099-00	METAL GLAZE	120K 5% 1/10W
R078	1-216-198-00	METAL GLAZE	1K 5% 1/8W	R532	1-216-049-00	METAL GLAZE	1K 5% (KV-A2521D, A2921D) 1/10W
R079	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R533	1-216-031-00	METAL GLAZE	180 5% (KV-A2521D, A2921D) 1/10W
R080	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R081	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R083	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R084	1-216-049-00	METAL GLAZE	1K 5% 1/10W				



The components identified by shading and mark **Δ** are critical for safety.  
Replace only with part number specified.

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
	1-216-295-00	METAL GLAZE	0 5% 1/10W (KV-A2521D, A2921D)	R605	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R534	1-216-119-00	METAL GLAZE	820K 5% 1/10W	R606	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R535	1-249-753-15	CARBON	4.7M 5% 1/4W	R607	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W (KV-A2121D, A2521D)
	1-249-749-00	CARBON	2.2M 5% 1/4W (KV-A2521D, A2921D)		1-216-067-00	METAL GLAZE	5.6K 5% 1/10W (KV-A2921D)
R536	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W	R608	1-216-488-11	METAL OXIDE	18K 5% 3W F
R537	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R609	1-216-007-00	METAL GLAZE	18 5% 1/10W
R538	1-216-101-00	METAL GLAZE	150K 5% 1/10W	R610	1-244-941-00	CARBON	680K 5% 1/2W
R539	1-216-101-00	METAL GLAZE	150K 5% 1/10W	R611	1-216-015-00	METAL GLAZE	39 5% 1/10W
R540	1-216-013-00	METAL GLAZE	33 5% 1/10W	R612	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R541	1-216-091-00	METAL GLAZE	56K 5% 1/10W	R613	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R542	1-216-308-00	METAL GLAZE	4.7 5% 1/10W	R614	1-205-758-11	WIREWOUND	100 10% 10W F
R543	1-249-451-11	CARBON	2.2 5% 1/4W	R616	1-216-099-00	METAL GLAZE	120K 5% 1/10W
R544	1-247-745-11	CARBON	330 5% 1/2W	R617	1-216-037-00	METAL GLAZE	330 5% 1/10W
R545	1-216-689-11	METAL GLAZE	39K 5% 1/10W (KV-A2121D)	R618	1-216-431-11	METAL OXIDE	560 5% 1W F
	1-216-081-00	METAL GLAZE	22K 5% 1/10W (KV-A2521D, A2921D)	R619	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R546	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R620	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R547	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W (KV-A2121D)	R621	1-216-077-00	METAL GLAZE	15K 5% 1/10W
	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W (KV-A2521D, A2921D)	R622	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R548	1-216-350-11	METAL OXIDE	1.2 5% 1W F (KV-A2121D)	R623	1-216-081-00	METAL GLAZE	22K 5% 1/10W
	1-216-349-00	METAL OXIDE	1 5% 1W F (KV-A2521D, A2921D)	R624	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R549	1-215-890-11	METAL OXIDE	470 5% 2W F (KV-A2121D)	R625	1-215-865-11	METAL OXIDE	220 5% 1W F
	1-216-454-11	METAL OXIDE	390 5% 2W F (KV-A2521D, A2921D)	R626	1-216-037-00	METAL GLAZE	330 5% 1/10W
R550	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R628	1-216-001-00	METAL GLAZE	10 5% 1/10W
R551	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W	R629	1-216-037-00	METAL GLAZE	330 5% 1/10W
R552	1-216-433-00	METAL OXIDE	1.2K 5% 1W F (KV-A2121D)	R631	1-216-465-11	METAL OXIDE	27K 5% 2W (KV-A2121D, A2521D)
R553	1-215-869-11	METAL OXIDE	1K 5% 1W	R633	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R554	1-216-037-00	METAL GLAZE	330 5% 1/10W	R634	1-216-430-11	METAL OXIDE	390 5% 1W F
R555	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W	R635	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R556	1-216-025-00	METAL GLAZE	100 5% 1/10W	R636	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R557	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R643	1-217-190-21	WIREWOUND	0.15 5% 2W F (KV-A2121D)
R558	1-216-113-00	METAL GLAZE	470K 5% 1/10W		1-217-189-21	WIREWOUND	0.12 5% 2W F (KV-A2521D, A2921D)
R559	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R651	1-216-025-00	METAL GLAZE	100 5% 1/10W
R560	1-216-037-00	METAL GLAZE	330 5% 1/10W	R653	1-205-758-11	WIREWOUND	100 10% 10W F
R561	1-216-107-00	METAL GLAZE	270K 5% 1/10W (KV-A2921D)	R802	1-249-443-11	CARBON	0.47 5% 1/4W F
R570	1-216-045-00	METAL GLAZE	680 5% 1/10W (KV-A2921D)	R805	1-249-448-11	CARBON	1.2 5% 1/4W F
R591	1-216-047-00	METAL GLAZE	820 5% 1/10W	R806	1-216-093-00	METAL GLAZE	68K 5% 1/10W
R592	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R807	1-217-778-11	FUSIBLE	1K 5% 1W F
R593	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R809	1-202-821-11	SOLID	1.8K 10% 1/2W
R594	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R810	1-202-818-00	SOLID	1K 10% 1/2W
R597	1-216-041-00	METAL GLAZE	470 5% 1/10W	R811	1-215-863-11	METAL OXIDE	100 5% 1W F (KV-A2121D)
R598	1-215-900-11	METAL OXIDE	22K 5% 2W F		1-215-882-00	METAL OXIDE	22 5% 2W F (KV-A2521D, A2921D)
R600	1-249-381-11	CARBON	1 5% 1/4W (KV-A2521D, A2921D)	R812	1-247-285-00	CARBON	75K 5% 1/2W (KV-A2121D)
R601	1-216-353-00	METAL OXIDE	2.2 5% 1W F		1-249-494-11	CARBON	68K 5% 1/2W (KV-A2521D)
R603	1-215-906-11	METAL OXIDE	15 5% 3W F (KV-A2121D)		1-247-281-00	CARBON	51K 5% 1/2W (KV-A2921D)
	1-216-469-11	METAL OXIDE	12 5% 3W F (KV-A2521D, A2921D)	R815	1-215-884-11	METAL OXIDE	47 5% 2W F
R604	1-216-025-00	METAL GLAZE	100 5% 1/10W	R816	1-215-868-00	METAL OXIDE	680 5% 1W F
				R817	1-216-049-00	METAL GLAZE	1K 5% 1/10W
				R820	1-249-403-11	CARBON	68 5% 1/4W
				R821	1-247-725-11	CARBON	10K 5% 1/4W F
				R822 Δ	1-217-778-61	FUSIBLE	1K 5% 1W F
				R825	1-216-349-00	METAL OXIDE	1 5% 1W F
					1-216-345-11	METAL OXIDE	0.47 5% 1W F (KV-A2521D, A2921D)





The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R826	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R751	1-249-418-11	CARBON 1.2K 5%	1/4W
R827	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R752	1-249-426-11	CARBON 5.6K 5%	1/4W
R828	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W	R753	1-249-414-11	CARBON 560 5%	1/4W
R829	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W	R754	1-249-434-11	CARBON 27K 5%	1/4W
R831	1-249-451-11	CARBON 2.2 5%	1/4W	R755	1-249-405-11	CARBON 100 5%	1/4W
R1601 $\Delta$	1-246-513-75	CARBON 47K 5%	1/4W	R756	1-249-419-11	CARBON 1.5K 5%	1/4W
R1602 $\Delta$	1-244-945-91	CARBON 1M 5%	1/2W	R757	1-249-405-11	CARBON 100 5%	1/4W
R1603 $\Delta$	1-217-328-11	WIREWOUND 2.7 10%	7W F	R758	1-249-409-11	CARBON 220 5%	1/4W
R1604 $\Delta$	1-246-513-75	CARBON 47K 5%	1/4W	R760	1-249-411-11	CARBON 330 5%	1/4W
R1605 $\Delta$	1-218-265-91	METAL GLAZE 8.2M 5%	1W	R761	1-249-429-11	CARBON 10K 5%	1/4W
R5501	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R762	1-247-895-00	CARBON 470K 5%	1/4W
R5503	1-216-308-00	METAL GLAZE 4.7 5%	1/10W	R763	1-249-429-11	CARBON 10K 5%	1/4W
	1-216-001-00	METAL GLAZE 10 5%	1/10W	R764	1-249-455-11	CARBON 4.7 5%	1/4W F
			(KV-A2121D, A2521D)	R765	1-249-455-11	CARBON 4.7 5%	1/4W F
			(KV-A2921D)	R766	1-247-753-11	CARBON 1.2K 5%	1/2W
R5504	1-216-121-00	METAL GLAZE 1M 5%	1/10W	R767	1-247-751-11	CARBON 820 5%	1/2W
R5505	1-216-001-00	METAL GLAZE 10 5%	1/10W	R768	1-215-887-00	METAL OXIDE 150 5%	2W F
R5506	1-216-075-00	METAL GLAZE 12K 5%	1/10W	R769 $\Delta$	1-212-889-51	FUSIBLE 220 5%	1/4W F
			(KV-A2921D)				
<VARIABLE RESISTOR>				<CONNECTOR>			
RV501	1-238-013-11	RES, ADJ, CARBON 2.2K		VM73	*1-568-878-51	PIN, CONNECTOR 3P	
RV502	1-238-016-11	RES, ADJ, CARBON 10K		VM88	*1-568-878-51	PIN, CONNECTOR 3P	
RV601	1-238-011-11	RES, ADJ, CARBON 470		*****			
<SPARK GAP>				*A-1645-013-A V BOARD, COMPLETE			
SG801	1-519-422-11	GAP, SPARK		*****			
<THERMISTOR>				<CAPACITOR>			
THP601 $\Delta$	1-808-059-32	THERMISTOR, POSITIVE		C1	1-126-101-11	ELECT 100MF	20% 16V
*****				C2	1-163-038-00	CERAMIC CHIP 0.1MF	25V
*1-634-193-11	VM BOARD (KV-A2921D)	*****		C3	1-124-120-11	ELECT 220MF	20% 16V
<CAPACITOR>				C4	1-163-077-00	CERAMIC CHIP 0.1MF	50V
C751	1-101-361-00	CERAMIC 150PF 5%	50V	C5	1-124-120-11	ELECT 220MF	20% 16V
C752	1-108-629-11	MYLAR 0.018MF 10%	100V	C6	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C753	1-137-047-11	FILM 0.01MF 10%	400V	C10	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C754	1-102-980-00	CERAMIC 270PF 5%	50V	C11	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C757	1-108-692-11	MYLAR 0.01MF 10%	200V	C12	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C759	1-124-907-11	ELECT 10MF 20%	50V	C13	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C760	1-124-917-11	ELECT 33MF 20%	50V	C14	1-124-927-11	ELECT 4.7MF	20% 50V
C761	1-101-006-00	CERAMIC 0.047MF	50V	C15	1-124-927-11	ELECT 4.7MF	20% 50V
C762	1-137-047-11	FILM 0.01MF 10%	400V	C16	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
<COIL>				C17	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
L751	1-408-413-00	INDUCTOR 22UH		C18	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
L770	1-410-665-31	INDUCTOR 15UH		C26	1-163-038-00	CERAMIC CHIP 0.1MF	25V
<TRANSISTOR>				C27	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
Q751	8-729-119-78	TRANSISTOR 2SC2785-HFE		C28	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
Q752	8-729-119-78	TRANSISTOR 2SC2785-HFE		C29	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
Q753	8-729-140-97	TRANSISTOR 2SB734-34		C32	1-163-038-00	CERAMIC CHIP 0.1MF	25V
Q754	8-729-140-96	TRANSISTOR 2SD774-34		C33	1-163-038-00	CERAMIC CHIP 0.1MF	25V
<RESISTOR>				<CONNECTOR>			
				CNV1	*1-565-393-11	CONNECTOR, BOARD TO BOARD	
				CNV2	*1-565-393-11	CONNECTOR, BOARD TO BOARD	
<DIODE>				<DIODE>			
D1	8-719-105-91	DIODE RD5.6M-B2		D1	8-719-105-91	DIODE RD5.6M-B2	
D3	8-719-914-44	DIODE DAP202K		D3	8-719-914-44	DIODE DAP202K	
D4	8-719-400-18	DIODE MA152WK		D4	8-719-400-18	DIODE MA152WK	
D5	8-719-914-44	DIODE DAP202K		D5	8-719-914-44	DIODE DAP202K	



The components identified by shading and mark **△** are critical for safety.  
Replace only with part number specified.

**V** **H1**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
D6	8-719-400-18	DIODE MA152WK		R7	1-216-083-00	METAL GLAZE 27K 5%	1/10W
D7	8-719-105-52	DIODE RD3.6M-B2		R8	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W
D9	8-719-106-17	DIODE RD6.8M-B2		R9	1-216-308-00	METAL GLAZE 4.7 5%	1/10W
<IC>				R02	1-216-214-00	METAL GLAZE 4.7K 5%	1/8W
IC1	8-759-039-18	IC SDA20162-B002		R10	1-218-325-11	METAL GLAZE 120 5%	1/4W
IC2	8-759-045-54	IC SAA5246P/E/M4A		R11	1-218-325-11	METAL GLAZE 120 5%	1/4W
IC3	8-759-510-49	IC FCB61C65L-70P		R12	1-218-325-11	METAL GLAZE 120 5%	1/4W
<COIL>				R13	1-216-025-00	METAL GLAZE 100 5%	1/10W
L1	1-408-403-00	INDUCTOR 3.3UH		R14	1-216-001-00	METAL GLAZE 10 5%	1/10W
L2	1-408-407-00	INDUCTOR 6.8UH		R15	1-216-013-00	METAL GLAZE 33 5%	1/10W
L3	1-408-407-00	INDUCTOR 6.8UH		R16	1-216-013-00	METAL GLAZE 33 5%	1/10W
L4	1-408-407-00	INDUCTOR 6.8UH		R17	1-216-013-00	METAL GLAZE 33 5%	1/10W
<IC LINK>				R18	1-216-025-00	METAL GLAZE 100 5%	1/10W
PS1	△ 1-532-679-91	LINK, IC (ICP-N15) 0.6A		R19	1-216-025-00	METAL GLAZE 100 5%	1/10W
<TRANSISTOR>				R20	1-216-041-00	METAL GLAZE 470 5%	1/10W
Q1	8-729-900-53	TRANSISTOR DTC114EK		R21	1-216-041-00	METAL GLAZE 470 5%	1/10W
Q2	8-729-920-92	TRANSISTOR 2SD2096-EF		R22	1-216-168-00	METAL GLAZE 56 5%	1/8W
Q3	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R23	1-216-214-00	METAL GLAZE 4.7K 5%	1/8W
Q4	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R24	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W
Q5	8-729-807-87	TRANSISTOR 2SB1295-UL6		R25	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q6	8-729-807-87	TRANSISTOR 2SB1295-UL6		R26	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q7	8-729-807-87	TRANSISTOR 2SB1295-UL6		R27	1-216-214-00	METAL GLAZE 4.7K 5%	1/8W
Q8	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R28	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
<RESISTOR>				R34	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR01	1-216-295-00	METAL GLAZE 0 5%	1/10W	R35	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR02	1-216-295-00	METAL GLAZE 0 5%	1/10W	R40	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR03	1-216-295-00	METAL GLAZE 0 5%	1/10W	R41	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR08	1-216-295-00	METAL GLAZE 0 5%	1/10W	R42	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR09	1-216-295-00	METAL GLAZE 0 5%	1/10W	R44	1-216-295-00	METAL GLAZE 0 5%	1/10W
JR11	1-216-295-00	METAL GLAZE 0 5%	1/10W	R46	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR14	1-216-296-00	METAL GLAZE 0 5%	1/8W	R47	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR17	1-216-295-00	METAL GLAZE 0 5%	1/10W	R49	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR18	1-216-296-00	METAL GLAZE 0 5%	1/8W	R50	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR19	1-216-296-00	METAL GLAZE 0 5%	1/8W	<VARIABLE RESISTOR>			
JR20	1-216-296-00	METAL GLAZE 0 5%	1/8W	RV1	1-238-012-11	RES, ADJ, CARBON 1K	
JR21	1-216-296-00	METAL GLAZE 0 5%	1/8W	<CRYSTAL>			
JR23	1-216-295-00	METAL GLAZE 0 5%	1/10W	X1	1-579-266-31	CRYSTAL VIBRATOR	
JR24	1-216-296-00	METAL GLAZE 0 5%	1/8W	X2	1-577-364-11	VIBRATOR, CERAMIC	
JR25	1-216-296-00	METAL GLAZE 0 5%	1/8W	*****			
JR26	1-216-296-00	METAL GLAZE 0 5%	1/8W	*1-638-391-11 H1 BOARD			
JR201	1-216-295-00	METAL GLAZE 0 5%	1/10W	*****			
JR204	1-216-295-00	METAL GLAZE 0 5%	1/10W	<CAPACITOR>			
JR207	1-216-295-00	METAL GLAZE 0 5%	1/10W	C1651	1-102-106-00	CERAMIC 100PF 10% 50V	
JR208	1-216-295-00	METAL GLAZE 0 5%	1/10W	C1652	1-102-106-00	CERAMIC 100PF 10% 50V	
JR211	1-216-295-00	METAL GLAZE 0 5%	1/10W	C1653	1-102-074-00	CERAMIC 0.001MF 10% 50V	
JR213	1-216-295-00	METAL GLAZE 0 5%	1/10W	C1655	1-102-074-00	CERAMIC 0.001MF 10% 50V	
JR219	1-216-296-00	METAL GLAZE 0 5%	1/8W	<CONNECTOR>			
JR220	1-216-295-00	METAL GLAZE 0 5%	1/10W	H1-1	*1-568-881-51	PIN, CONNECTOR 6P	
JR223	1-216-295-00	METAL GLAZE 0 5%	1/10W	H1-02	1-568-678-11	TERMINAL BLOCK, S 3P	
R1	1-218-326-11	METAL GLAZE 470 5%	1/2W	H1-4	*1-568-879-51	PIN, CONNECTOR 4P	
R3	1-216-049-00	METAL GLAZE 1K 5%	1/10W	H1-05	1-562-837-11	JACK	
R4	1-216-025-00	METAL GLAZE 100 5%	1/10W	H1-23	*1-568-879-51	PIN, CONNECTOR 4P	
R5	1-216-047-00	METAL GLAZE 820 5%	1/10W	H1-43	*1-564-512-11	PLUG, CONNECTOR 9P	
R6	1-216-001-00	METAL GLAZE 10 5%	1/10W				



# H1

## H2

### J1

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<RESISTOR>				C228	1-137-104-11	FILM 0.033MF	10% 250V
R1651	1-249-413-11	CARBON 470 5% 1/4W		C229	1-137-049-11	FILM 0.015MF	10% 400V
R1652	1-249-413-11	CARBON 470 5% 1/4W		C230	1-137-049-11	FILM 0.015MF	10% 400V
<SWITCH>				C231	1-124-902-00	ELECT 0.47MF	20% 50V
S1651	1-571-532-21	SWITCH, TACTIL		C232	1-124-907-11	ELECT 10MF	20% 50V
S1652	1-571-532-21	SWITCH, TACTIL		C233	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
S1653	1-571-532-21	SWITCH, TACTIL		C234	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
*****				C235	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
*1-638-392-11	H2 BOARD	*****		C236	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
*4-374-987-01	GUIDE, LIGHT			C237	1-124-902-00	ELECT 0.47MF	20% 50V
*4-381-686-01	BRACKET (B), LIGHT GUIDE			C238	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
<DIODE>				C239	1-126-103-11	ELECT 470MF	20% 16V
D1651	8-719-948-31	DIODE LD-201VR		C240	1-163-018-00	CERAMIC CHIP 0.0056MF	10% 50V
*4-201-076-01	HOLDER, LED; D1651			C241	1-163-018-00	CERAMIC CHIP 0.0056MF	10% 50V
D1652	8-719-948-31	DIODE LD-201VR		C242	1-163-033-00	CERAMIC CHIP 0.022MF	50V
*4-201-076-01	HOLDER, LED; D1652			C243	1-163-033-00	CERAMIC CHIP 0.022MF	50V
D1654	8-719-948-31	DIODE LD-201VR		C244	1-163-033-00	CERAMIC CHIP 0.022MF	50V
*4-201-076-01	HOLDER, LED; D1654			C245	1-163-033-00	CERAMIC CHIP 0.022MF	50V
<CONNECTOR>				C1401	1-124-907-11	ELECT 10MF	20% 50V
H2-2	*1-568-882-51	PIN, CONNECTOR 7P		C1402	1-126-103-11	ELECT 470MF	20% 16V
<IC>				C1403	1-163-003-11	CERAMIC CHIP 330PF	10% 50V
IC1651	8-741-101-75	IC SBX1610-11		C1404	1-137-098-11	FILM 0.1MF	10% 100V
<RESISTOR>				C1405	1-163-029-11	CERAMIC CHIP 0.0047MF	50V
R1662	1-249-413-11	CARBON 470 5% 1/4W		C1406	1-137-098-11	FILM 0.1MF	10% 100V
*****				C1407	1-124-910-11	ELECT 47MF	20% 50V
*A-1651-018-A	J1 BOARD, COMPLETE (KV-A2121D, A2521D)	*****		C1408	1-124-122-11	ELECT 100MF	20% 50V
*A-1651-020-A	J1 BOARD, COMPLETE (KV-A2921D)	*****		C1409	1-126-233-11	ELECT 22MF	20% 50V
<CAPACITOR>				C1410	1-124-907-11	ELECT 10MF	20% 50V
C203	1-124-925-11	ELECT 2.2MF 20% 50V		C1411	1-124-907-11	ELECT 10MF	20% 50V
C205	1-124-927-11	ELECT 4.7MF 20% 50V		C1412	1-124-910-11	ELECT 47MF	20% 50V
C206	1-124-925-11	ELECT 2.2MF 20% 50V		C1413	1-124-910-11	ELECT 47MF	20% 50V
C207	1-124-927-11	ELECT 4.7MF 20% 50V		C1414	1-124-907-11	ELECT 10MF	20% 50V
C213	1-126-233-11	ELECT 22MF 20% 50V		C1415	1-137-098-11	FILM 0.1MF	10% 100V
C214	1-137-045-11	FILM 0.0068MF 10% 400V		C1416	1-137-098-11	FILM 0.1MF	10% 100V
C217	1-137-045-11	FILM 0.0068MF 10% 400V		C1417	1-124-120-11	ELECT 220MF	20% 16V
C218	1-137-102-11	FILM 0.022MF 10% 250V		C1418	1-163-003-11	CERAMIC CHIP 330PF	10% 50V
C219	1-137-102-11	FILM 0.022MF 10% 250V		C1419	1-163-003-11	CERAMIC CHIP 330PF	10% 50V
C220	1-108-686-11	MYLAR 0.0033MF 10% 100V		C1425	1-124-902-00	ELECT 0.47MF	20% 50V
C221	1-108-686-11	MYLAR 0.0033MF 10% 100V		C1426	1-124-902-00	ELECT 0.47MF	20% 50V
C222	1-137-095-11	FILM 0.056MF 10% 100V		C1427	1-163-029-11	CERAMIC CHIP 0.0047MF	50V
C223	1-137-095-11	FILM 0.056MF 10% 100V		C1428	1-163-029-11	CERAMIC CHIP 0.0047MF	50V
C224	1-137-047-11	FILM 0.01MF 10% 400V		C1429	1-163-029-11	CERAMIC CHIP 0.0047MF	50V
C225	1-136-173-00	FILM 0.47MF 5% 50V		C1430	1-163-003-11	CERAMIC CHIP 330PF	10% 50V
C226	1-136-173-00	FILM 0.47MF 5% 50V		C1431	1-126-529-11	ELECT 0.47MF	20% 50V
C227	1-137-102-11	FILM 0.022MF 10% 250V		C1432	1-124-902-00	ELECT 0.47MF	20% 50V
				C1433	1-124-122-11	ELECT 100MF	20% 50V
				C1436	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
				C1437	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
				C1438	1-137-047-11	FILM 0.01MF	10% 400V
				C1439	1-137-047-11	FILM 0.01MF	10% 400V
				C1440	1-124-907-11	ELECT 10MF	20% 50V
				C1441	1-124-907-11	ELECT 10MF	20% 50V
				C1442	1-137-098-11	FILM 0.1MF	10% 100V
				C1443	1-137-098-11	FILM 0.1MF	10% 100V
				C1444	1-124-910-11	ELECT 47MF	20% 50V
				C1445	1-102-824-00	CERAMIC 470PF	5% 50V
				C1446	1-102-824-00	CERAMIC 470PF	5% 50V
				C1501	1-124-927-11	ELECT 4.7MF	20% 50V
				C1502	1-124-903-11	ELECT 1MF	20% 50V
				C1503	1-108-680-11	MYLAR 0.001MF	10% 100V
				C1504	1-124-910-11	ELECT 47MF	20% 50V
				C1505	1-137-094-11	FILM 0.047MF	10% 100V
				C1507	1-108-686-11	MYLAR 0.0033MF	10% 100V



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C1508	1-124-903-11	ELECT	1MF 20% 50V				
C1509	1-124-903-11	ELECT	1MF 20% 50V				
C1511	1-124-927-11	ELECT	4.7MF 20% 50V				
C1512	1-137-045-11	FILM	0.0068MF 10% 400V				
			(KV-A2121D, A2521D)				
C1513	1-163-105-00	CERAMIC CHIP	33PF 5% 50V				
C1514	1-137-102-11	FILM	0.022MF 10% 250V				
			(KV-A2121D, A2521D)				
C1515	1-102-117-00	CERAMIC	820PF 10% 50V				
			(KV-A2121D, A2521D)				
<CONNECTOR>				<TRANSISTOR>			
CN1401	1-565-838-11	JACK BLOCK, PIN 2P		Q201	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
J1-41	*1-566-641-11	CONNECTOR, HINGE (TAB) 18P		Q202	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
J1-43	*1-564-524-11	PLUG, CONNECTOR 9P		Q1401	8-729-216-22	TRANSISTOR 2SA1162-G	
J1-44	*1-564-527-11	PLUG, CONNECTOR 12P		Q1402	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
J1-51	*1-566-641-11	CONNECTOR, HINGE (TAB) 18P		Q1403	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
				Q1404	8-729-216-22	TRANSISTOR 2SA1162-G	
<DIODE>				<RESISTOR>			
D201	8-719-110-14	DIODE RD9.1ES-B3		R201	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
D202	8-719-110-14	DIODE RD9.1ES-B3		R202	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W	
D205	8-719-110-03	DIODE RD7.5ES-B2		R203	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
D206	8-719-110-03	DIODE RD7.5ES-B2		R204	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
D1401	8-719-110-03	DIODE RD7.5ES-B2		R205	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
D1403	8-719-110-03	DIODE RD7.5ES-B2		R206	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
D1404	8-719-110-03	DIODE RD7.5ES-B2		R207	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
D1405	8-719-110-03	DIODE RD7.5ES-B2		R208	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
D1406	8-719-110-03	DIODE RD7.5ES-B2		R209	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
D1407	8-719-921-77	DIODE MTZN-10C		R210	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
D1408	8-719-110-14	DIODE RD9.1ES-B3		R211	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
D1409	8-719-110-14	DIODE RD9.1ES-B3		R212	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
D1410	8-719-110-14	DIODE RD9.1ES-B3		R213	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
D1415	8-719-110-03	DIODE RD7.5ES-B2		R214	1-216-033-00	METAL GLAZE 220 5% 1/10W	
D1418	8-719-110-03	DIODE RD7.5ES-B2		R215	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
D1419	8-719-110-03	DIODE RD7.5ES-B2		R216	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
D1420	8-719-110-03	DIODE RD7.5ES-B2		R217	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
D1421	8-719-110-03	DIODE RD7.5ES-B2		R218	1-216-033-00	METAL GLAZE 220 5% 1/10W	
D1422	8-719-110-03	DIODE RD7.5ES-B2		R219	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
D1423	8-719-110-03	DIODE RD7.5ES-B2		R220	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
D1424	8-719-110-03	DIODE RD7.5ES-B2		R221	1-216-041-00	METAL GLAZE 470 5% 1/10W	
D1425	8-719-110-03	DIODE RD7.5ES-B2		R222	1-216-041-00	METAL GLAZE 470 5% 1/10W	
D1426	8-719-110-03	DIODE RD7.5ES-B2		R223	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
D1501	8-719-300-33	DIODE RU-3AM		R224	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
D1502	8-719-911-19	DIODE 1SS119		R225	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
D1503	8-719-911-19	DIODE 1SS119		R226	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
D1504	8-719-911-19	DIODE 1SS119		R227	1-216-033-00	METAL GLAZE 220 5% 1/10W	
D1505	8-719-911-19	DIODE 1SS119		R228	1-216-033-00	METAL GLAZE 220 5% 1/10W	
D1506	8-719-982-33	DIODE MTZJ-36D		R229	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
D1507	8-719-911-19	DIODE 1SS119		R230	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
D1510	8-719-911-19	DIODE 1SS119		R231	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
<IC>				R232	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
IC201	8-759-013-17	IC TDA6200		R233	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
IC1401	8-752-053-17	IC CXA1111AP		R234	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
IC1402	8-759-946-32	IC TEA2014A		R235	1-216-295-00	METAL GLAZE 0 5% 1/10W	
IC1403	8-759-140-53	IC UPD4053BC		R236	1-216-295-00	METAL GLAZE 0 5% 1/10W	
IC1501	8-759-942-16	IC TEA2031A		R240	1-216-033-00	METAL GLAZE 220 5% 1/10W	
<JACK>				R241	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
J1402	1-561-534-41	SOCKET 21P		R242	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
J1403	1-561-534-41	SOCKET 21P		R243	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
				R244	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
				R245	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
				R246	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
				R247	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
				R248	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
				R249	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
				R250	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
				R1400	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				R1401	1-216-023-00	METAL GLAZE 82 5% 1/10W	
				R1402	1-216-170-00	METAL GLAZE 68 5% 1/8W	
				R1403	1-216-089-00	METAL GLAZE 47K 5% 1/10W	



**IFG**

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The components identified by shading and mark **▲** are critical for safety.  
Replace only with part number specified.

IFG

REF.NO.	PART NO.	DESCRIPTION	REMARK
C11	1-163-119-00	CERAMIC CHIP 120PF	5%
C12	1-136-298-00	FILM 0.0033MF	2%
C13	1-124-477-11	ELECT 47MF	20%
C14	1-124-477-11	ELECT 47MF	20%
C15	1-124-477-11	ELECT 47MF	20%
C16	1-124-477-11	ELECT 47MF	20%
C17	1-124-907-11	ELECT 10MF	20%
C18	1-137-047-11	FILM 0.01MF	10%
C19	1-137-047-11	FILM 0.01MF	10%
C20	1-126-233-11	ELECT 22MF	20%
C21	1-126-233-11	ELECT 22MF	20%
C22	1-137-098-11	FILM 0.1MF	10%
C23	1-137-031-11	FILM 0.22MF	10%
C24	1-124-034-51	ELECT 33MF	20%
C25	1-137-102-11	FILM 0.022MF	10%
C26	1-137-094-11	FILM 0.047MF	10%
C27	1-124-903-11	ELECT 1MF	20%
C28	1-163-109-00	CERAMIC CHIP 47PF	5%
C29	1-124-903-11	ELECT 1MF	20%
C30	1-124-903-11	ELECT 1MF	20%
C31	1-137-047-11	FILM 0.01MF	10%
C32	1-130-479-00	MYLAR 0.0047MF	5%
C33	1-163-081-00	CERAMIC CHIP 0.22MF	25V
C34	1-137-031-11	FILM 0.22MF	10%
C35	1-124-907-11	ELECT 10MF	20%
C36	1-163-119-00	CERAMIC CHIP 120PF	5%
C37	1-124-477-11	ELECT 47MF	20%
C38	1-124-477-11	ELECT 47MF	20%
C39	1-163-133-00	CERAMIC CHIP 470PF	5%

<FILTER>

CDA1	1-404-751-11	DISCRIMINATOR, CERAMIC
CDA2	1-404-750-11	DISCRIMINATOR, CERAMIC
SFT1	1-527-840-00	FILTER, CERAMIC
SFT2	1-527-839-00	FILTER, CERAMIC

<DIODE>

D3	8-719-400-18	DIODE MA152WK
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<IC>

IC1	8-759-003-90	IC TBA129
IC2	8-759-003-90	IC TBA129
IC3	8-759-030-48	IC TDA6600-2
IC4	8-759-513-48	IC TDA2595/V9

<CONNECTOR>

IFG13	*1-565-488-11	CONNECTOR, BOARD TO BOARD 12P
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<COIL>

L1	1-408-410-00	INDUCTOR 12UH
L2	1-408-410-00	INDUCTOR 12UH
L3	1-410-064-11	INDUCTOR 2.7MMH
L4	1-408-421-00	INDUCTOR 100UH
L5	1-408-421-00	INDUCTOR 100UH

<TRANSISTOR>

Q2	8-729-901-00	TRANSISTOR DTC124EK
Q3	8-729-216-22	TRANSISTOR 2SA1162-G
Q4	8-729-901-00	TRANSISTOR DTC124EK

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<RESISTOR>	
JR8	1-216-296-00	METAL GLAZE 0	5%
JR10	1-216-296-00	METAL GLAZE 0	5%
R1	1-216-045-00	METAL GLAZE 680	5%
R2	1-216-043-00	METAL GLAZE 560	5%
R3	1-216-043-00	METAL GLAZE 560	5%
R5	1-216-045-00	METAL GLAZE 680	5%
R6	1-216-043-00	METAL GLAZE 560	5%
R7	1-216-043-00	METAL GLAZE 560	5%
R9	1-216-073-00	METAL GLAZE 10K	5%
R11	1-216-095-00	METAL GLAZE 82K	5%
R12	1-216-097-00	METAL GLAZE 100K	5%
R13	1-216-071-00	METAL GLAZE 8.2K	5%
R15	1-216-059-00	METAL GLAZE 2.7K	5%
R16	1-216-097-00	METAL GLAZE 100K	5%
R17	1-216-097-00	METAL GLAZE 100K	5%
R18	1-216-063-00	METAL GLAZE 3.9K	5%
R19	1-216-097-00	METAL GLAZE 100K	5%
R20	1-216-075-00	METAL GLAZE 12K	5%
R22	1-216-099-00	METAL GLAZE 120K	5%
R24	1-216-089-00	METAL GLAZE 47K	5%
R25	1-216-077-00	METAL GLAZE 15K	5%
		<VARIABLE RESISTOR>	
RV1	1-238-016-11	RES, ADJ, CARBON 10K	
RV2	1-238-019-11	RES, ADJ, CARBON 47K	

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MISCELLANEOUS

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▲1-426-383-11	COIL, DEMAGNETIZATION (KV-A2121D)
▲1-460-091-11	COIL, DEGAUSS (KV-A2521D)
▲1-426-535-11	COIL, DEGAUSSING (KV-A2921D)
▲1-451-295-11	DEFLECTION YOKE (Y21PFA2) (KV-A2111D)
▲1-451-311-21	DEFLECTION YOKE (Y25FXA) (KV-A2521D)
▲1-451-313-21	DEFLECTION YOKE (Y29FXA) (KV-A2921D)
1-452-032-00	MAGNET, DISK; 10MM $\phi$
1-452-094-00	MAGNET, ROTATABLE DISK; 15MM $\phi$
1-452-277-00	MAGNET, BMC (KV-A2121D)
▲1-452-509-42	NECK ASSY, PICTURE TUBE (NA-308)
	(KV-A2921D)
1-544-475-11	SPEAKER
▲1-590-501-11	CORD, POWER (WITH NOISE FILTER)

V901	▲8-738-758-05	PICTURE TUBE (A51JXH61X) (KV-A2121D)
	▲8-733-231-05	PICTURE TUBE (A59JWC61X) (KV-A2521D)
	▲8-733-831-05	PICTURE TUBE (A68JYL61X) (KV-A2921D)

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ACCESSORIES AND PACKING MATERIALS

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3-754-894-11	MANUAL, INSTRUCTION (GERMAN/ENGLISH/FRENCH/DUTCH/ITALIAN/PORTUGUESE)
*4-031-068-01	CUSHION (UPPER) (ASSY) (KV-A2121D)
*4-031-069-01	CUSHION (LOWER) (ASSY) (KV-A2121D)
*4-031-070-01	INDIVIDUAL CARTON (KV-A2121D)
*4-030-989-01	CUSHION (UPPER) (ASSY) (KV-A2521D)
*4-030-990-01	CUSHION (LOWER) (ASSY) (KV-A2521D)
*4-201-015-03	INDIVIDUAL CARTON (KV-A2521D)
*4-380-340-01	BAG, PROTECTION (KV-A2121D, A2521D)
*4-031-996-01	CUSHION (UPPER) (ASSY) (KV-A2921D)